

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Chris Oliver 
Executive Director

DATE: December 4, 2003

SUBJECT: Groundfish Management

ESTIMATED TIME 12 HOURS (all D-1 items)

ACTION REQUIRED

- (c) Discuss alternatives and schedule for repealing the VIP.

In June 2003, the Council initiated an amendment to repeal the Vessel Incentive Program, given concerns about the effectiveness of the program and its potential for additional administrative burden due to increased legal standards. In October 2003, the Council reviewed a NMFS discussion paper (Item D-1(c)) as the first step in consulting with the Council to develop alternatives for analysis. The Council accepted the following proposed alternatives for analysis and has scheduled initial review of the draft EA/RIR/IRFA for its April 2004 meeting. The Council requested that a discussion of alternatives for analysis be placed on the agenda at this meeting for additional public testimony. The alternatives for analysis which were adopted by the Council in October 2003 are listed below.

1. No action. Do not repeal the Vessel Incentive Program.
2. Modify the VIP to reduce the frequency of rate of publication.
 - Option 1. Publish rates once a year
 - Option 2. Incorporate rates in regulation to eliminate the need for publication
3. Remove the regulatory authority for the VIP.
 - Option 1. Eliminate the VIP at the FMP-level and eliminate from the regulations
 - Option 2. Eliminate the VIP from the regulations

Vessel Incentive Program (VIP) Discussion Paper

September 2003

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Abstract: At its June 2003 meeting in Kodiak, the North Pacific Fishery Management Council initiated an amendment to repeal the vessel incentive program (VIP), given concerns about the effectiveness of the program and its potential for additional administrative burden because of increased legal standards. This discussion paper is the first step in the process begun by the Council. This paper discusses the history and effectiveness of the VIP program, and describes potential courses of action available to the Council to address existing concerns.

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Executive Summary

At its June 2003 meeting in Kodiak, the North Pacific Fishery Management Council (Council) “initiated an amendment to repeal the vessel incentive program (VIP), given concerns about the effectiveness of the program and potential for additional administrative burden due to increased legal standards.” (Council, 2003). The initial step in this process is the preparation of this discussion paper, which outlines the history of the VIP, discusses its effectiveness, and describes potential alternatives to address existing concerns.

The VIP, which became effective in 1991, requires individual fishing operations in groundfish trawl fisheries in the Bering Sea and Aleutian Islands (BSAI) and the Gulf of Alaska (GOA) to comply with standardized prohibited species catch (PSC) rates for halibut and red king crab. The VIP program is designed to slow down trawl harvests of prohibited species and allow more fishing time for target groundfish species before PSC limits are reached, and targeted groundfish fishing is closed. The VIP rates are published two times a year by the NMFS Alaska Region.

This program has had problems for many years. Relatively few violations have been prosecuted, and in two cases defendants prolonged their cases over many years through extensive appeals. Current enforcement and prosecution measures provide little deterrent to violators. The program is believed to have encouraged fishermen to pre-sort their catches before observers can examine them, and to attempt to corrupt and intimidate observers.

In the past, publication of the bi-annual standard rates has been expedited by using the “good cause” exemption in the Administrative Procedures Act (APA) to proceed directly to a final rule. In the Spring of 2003, NMFS concurred with NOAA GC that the rationale on which good cause waiver of prior notice and opportunity to comment was based did not constitute adequate justification for such a waiver. The Alaska Region was unable to comply with notice and comment rulemaking and associated analysis requirements in the summer of 2003, and did not publish rate standards for the second half of 2003. In June 2003, the Council initiated its amendment to repeal the VIP.

It is unclear whether or not the VIP has been successful in reducing prohibited species bycatch rates. A masters thesis that examined the impacts on halibut prohibited species catch found that “the VIP has not played a serious role in reducing halibut bycatch rates.” Evidence on frequency of violation of VIP standard rates shows frequent violations in certain fisheries. The VIP program depends on fishery observers to collect information on PSC bycatch. There is anecdotal evidence that the VIP program has provided an incentive for fishing operations to pre-sort their catches before they are seen by an observer, and to pressure observers to misreport their observations. Both types of actions are illegal, and both compromise the usefulness of observer information for biological management of all species.

This analysis has identified three alternatives. Two of these alternatives each have two options associated with them. The three alternatives are: (1) No regulatory action to change or abolish the program (continue to publish bi-annual standard rates, renewed commitment to program enforcement); (2) modify the program to reduce the frequency of rate publication (the two options to this alternative are to publish rates once a year, or to incorporate rates in regulation so as to eliminate the need for periodic publication); (3) remove the regulatory authority for the VIP program (the two options to this alternative are to eliminate the program at the FMP-level as well as eliminate it in regulations, and to simply eliminate it in regulations). All alternatives were compared to a baseline of no program, no enforcement or other

program activity, no notices of VIP rates, and no regulatory or FMP changes.

The analysis described the following tradeoffs among these alternatives:

- None of these alternatives are expected to have a significant impact on prohibited species protection. The prohibited species are protected by the overall caps or limits on PSC. These would not be affected by changes to the VIP program.
- The “no-action” and “alternative notice schedules” alternatives would require a renewal of the enforcement effort. If this effort were successful, and the VIP rates slowed down groundfish fishing, groundfish fishermen in certain fisheries might enjoy longer seasons and higher harvests and revenues. Compliance with the VIP rates and the longer seasons would increase fishing costs, reducing the benefits somewhat. Two of the fisheries that might benefit are the yellowfin sole and rock sole fisheries in the BSAI. Since the BSAI groundfish fishery TACs are currently equal to the BSAI optimal yield (OY) of two million metric tons, increases in yellowfin sole and rock sole TACs and catches might require the Council to reduce TACs for other species.
- The “no action” and “alternative notice schedules” alternatives would require an increased commitment of observer program, NOAA Enforcement, and NOAA General Counsel resources. The paper reported a partially monetized value for these of \$300 to \$450 thousand per year. If additional budget resources were not forthcoming for this program, other activities of these agencies would have to be cut back.
- The “no action” and “alternative notice schedules” alternatives would require rulemaking to either put the standard rates in regulations, or to publish the rates once or twice a year. The “eliminate VIP alternative” options would require a one-time change to the FMP and/or a change in regulations.

1 Introduction

At its June 2003 meeting in Kodiak, the North Pacific Fishery Management Council (Council) “initiated an amendment to repeal the vessel incentive program (VIP), given concerns about the effectiveness of the program and potential for additional administrative burden due to increased legal standards.” (Council, 2003).

The initial step in this process is the preparation of this discussion paper, which outlines the history of the VIP, discusses its effectiveness, and describes potential alternatives to address existing concerns.

2 Background

2.1 Origin of the VIP program

Groundfish fisheries off of Alaska catch non-groundfish species as well. Some of these non-groundfish species, are themselves the objects of valuable targeted fisheries. These species include Pacific halibut, salmon, king and Tanner crabs, and herring. Provisions were incorporated early on in the Fishery Management Plans (FMPs) to prohibit the retention of these species by foreign fleets (hence the expression “prohibited species”). As the groundfish fisheries were Americanized, the prohibited species issue became one of allocation between the domestic groundfish fisheries and other domestic fisheries.

In the late 1980s, the Council sought to address this domestic allocation conflict by controlling the incidental catch or bycatch of these prohibited species by the joint venture and domestic groundfish fleets. In 1989, the Council adopted Amendments 12a and 18, introducing prohibited species catch (PSC) limits into groundfish management in the Bering Sea and Aleutian Islands (BSAI) and the Gulf of Alaska, respectively. PSC limits were established and apportioned among fisheries based on gear or target species. Once a fishery had taken its PSC apportionment for a given species, directed fishing for the target species was closed. The program was introduced for part of 1989 and all of 1990, and was scheduled to “sunset” at the end of 1990. The program was thus experimental. The Secretary of Commerce approved the concept of PSC limits permanently under subsequent FMP amendments and their implementing regulations.

During their first full year (1990) the PSC limits led to numerous and expensive groundfish fishing closures. These closures affected joint venture and domestic flatfish fisheries in the BSAI, domestic pollock and Pacific cod fisheries in the BSAI, and domestic hook-and-line and non-pelagic trawl fisheries in the GOA. These closures were estimated to result in tens of millions of dollars in lost groundfish fishing revenues, based on the amount of groundfish TACs that remained uncaught.

The incentive problem

A PSC limit in a fishery is essentially a common property quota. Although the purpose is to limit PSC, the effect of the cap is to create a quota to allow the catch, but not the retention, of the PSC by the participants in the target fishery. The access to the PSC limit is highly competitive with the value of the quota being the value of the target species catch associated with any PSC catch. With a given average bycatch rate in the fishery, a PSC limit translates into an effective quota on catch in the target fishery. This effective target fishery quota may be less than the allowable quota for the target species published in

the annual fishery specifications. This situation encourages excessively rapid catch of the PSC as individual vessels "race" to catch their intended target species before the fishery's PSC apportionment is taken and the fishery closed.

This "race for the fish," and attendant high prohibited species bycatch rates, occur because the competition created by the PSC does not encourage individual fishing operations to take full account of all of the costs of their actions when they make fishing decisions. An operation that fished "dirty," that is, an operation that fished with high rates of associated prohibited species bycatch, obtained a benefit that accrued to itself alone: cheaper groundfish. But it did so by speeding the closure of the groundfish fishery. If the closure came before the groundfish TAC was fully caught, the entire groundfish fleet would incur a cost - the value of the foregone groundfish. The operation that was fishing "dirty" would bear some of this cost, but much of it would be borne by the other operations in the fishery. No single operation would fully bear the costs of dirty fishing. "Dirty" operations could fully enjoy the benefits of their actions but would shift a large part of the costs to other operations. These operations would not have an incentive to optimally control prohibited species catch rates.

If all the operations in a targeted groundfish fishery were to take steps to control their bycatch, the fishery could operate longer and produce larger volumes of fish for the participants. However, no party could be excluded from the benefits of the longer fishery. Thus, an operator that didn't take steps to control bycatch, or that took inadequate steps, would be able to "free ride" on the efforts of those fishermen that did take serious and effective efforts to control their bycatch. All fishing operations face this same set of incentives, and moreover, all fishing operations know that the other operations face them. The result can be that the group of fishermen can fail to take actions that would have a positive net benefit for them as a group.¹

The common property nature of the PSC limit doesn't inevitably create a problem. A fishery may not have significant PSC rates. The BSAI mid-water pollock trawl fishery falls into this category.

At heart this is an incentive problem. Individual fishing operations must be forced to face up to the costs they impose on other parties when they fish with excessive prohibited species bycatch rates. There are many ways this can be done:

- Peer pressure might be effective in small groups. This would be facilitated through the calculation and publication of bycatch rates.
- Fishing operations might be charged a fee that varied with the prohibited species rate. Higher rates would be associated with higher fees. Fees would ideally be proportioned to the costs the fishing operation with a high bycatch rate imposes on other operations. This option does not imply the absence of a PSC, but would take place within the context of an ongoing PSC program.
- Impose a required by-catch rate limit on fishermen, and penalize them if they violate it (this is the approach that is used in the current VIP program).
- The overall fishery PSC could be subdivided among the fishermen in the target fishery, and treated as a tradable individual PSC quota (similar to the IFQs already in use in the halibut and sablefish fisheries). This is also a method of making the fishing operation face up to the costs of a high PSC bycatch rate: if the PSC quota were tradable, the operation could either use its rate or

¹The technical economic terms for the issues in these paragraphs are "common property," "externality" (imposing costs on others that one doesn't fully account for in one's decision making), and "public good" (no one in a defined group can be excluded from enjoying the benefits of this good if it is provided).

sell it. If it had a natural ability to fish clean, it might find it profitable to sell the PSC to an operation that fished more effectively relatively dirtily. The cost of fishing dirtily would be the revenues forgone by not being able to sell one's quota, or of having to buy quota in the market place.

- The fishing operations in a fishery could be combined into one corporation. In this case, all vessels would be owned by the same party, so all the costs created by any one vessel would be "internalized" and borne by a single operating entity. In this case, all of the profits from fishing would be received by a single "residual claimant," the corporation, and the corporation would direct its operating units to fish in the optimal manner from its point of view, so that it maximized the value of its PSC target species allocations.
- Fishermen with low PSC rates could receive compensation, perhaps in the form of special fishing rights not available to operators with higher PSC rates. The loss of these rights when fishing dirty would then impose a cost on dirty operations.

All of these various approaches have in common the intention of making a fishing operation bear all of the costs it creates when it fishes in a relatively dirty way. They also depend on accurate measurement and reporting of catch composition.

The "penalty box" program

In June 1990 the Council addressed this incentive problem by adopting Amendments 21 and 16 to the FMPs for the GOA and BSAI. These amendments included provisions that would create incentives for individual fishing operations to control their prohibited species bycatch rates. The incentive program adopted by the Council was referred to as the "penalty box" program. The penalty box program required operations in a fishery to "maintain a 4-week average bycatch rate less than two times the concurrent fleet average in each of the fisheries and for each of three bycatch species. Failure of a vessel to meet such bycatch standards would result in a suspension of the vessel from the Alaskan groundfish fishery (placement in the "penalty box") for a period ranging from five days to six weeks." (NMFS, 1990, page 2).

A NMFS analysis after the Council had approved the penalty box program "indicated that substantial revisions to the observer database occur after observers are debriefed and their data are analyzed and corrected." At the time the processed data might not "be available for up to six months after a fishing week. Because enforcement of the incentive program could only be based upon corrected data, inseason action against vessel that fail to meet acceptable bycatch standards cannot be taken." (NMFS, 1990, pages 2-3).

"The [penalty box] incentive program also failed to conform to requirements of other applicable law, including the Administrative Procedures Act. This Act requires that regulations be reasonable and effective. The observer data are insufficient to determine whether variability of bycatch rates permit the use of four-week fleet averages as a basis for legally acceptable standards." (NMFS, 1990, page 3). As a result of these enforcement and legal deficiencies, the Secretary of Commerce disapproved the proposed penalty box incentive program.

The vessel incentive program (VIP) for specified trawl fisheries

Following the Secretary's rejection of the penalty box program, the Council adopted the VIP in a special

teleconference meeting in November 1990. Under the VIP, fixed quarterly bycatch rate standards for 1991 were proposed for specific fisheries occurring in the BSAI and the GOA. The Secretary approved revised Amendments 16 and 21 to the BSAI and GOA FMPs respectively and issued an interim final rule implementing the VIP on May 10, 1991. The interim final rule contained quarterly bycatch rate standards for the first and second quarters of 1991.

Program modifications in 1992 and 1993

The original VIP rates applied to non-pelagic pollock, but not pelagic pollock since halibut bycatch was low in the pelagic pollock trawl fishery. In order to avoid the VIP rate restrictions, non-pelagic pollock trawl fishermen reconfigured their nets as pelagic gear, but continued to fish the gear on the bottom. The Council and NMFS responded by with an emergency rule applying the VIP requirements to pelagic pollock trawling in June 1992. (Renko, page 41-42). In 1993,

In 1993 changes became effective that applied the VIP program to all of the BSAI and GOA trawl fisheries. Renko explains that “this was viewed as a means of decreasing the inequities between vessels in different fisheries which contributed to the sam halibut bycatch allowances. It was also seen as a means of tightening up the regulation to prevent vessels from manipulating fishing targets in order to be excluded from the VIP. At this time changes were also made to the definitions of target fisheries used for the VIP program. In the GOA, the target categories of pelagic pollock, Pacific cod, and rockfish were replaced by the two categories, pelagic pollock and “other trawl.” In the BSAI, the target categories of pelagic pollock, Pacific cod, and “flatfish” were replaced by yellowfin sole, pelagic pollock, bottom pollock, and “other trawl.” (Renko, page 42-45).

Table 1 VIP Chronology

1990	Jan	Implementation of required observer program
1991	May	Interim final rule published in <i>Federal Register</i> on May 10, effective on May 6. First violation that will be prosecuted occurs
	Jun-Jul	Second and third violations that will be prosecuted occur in these months
	Sep	Fourth violation that will be prosecuted occurs
1993	May	Fifth and last violation that will be prosecuted occurs
1999		Last warning letters sent out in Fall
2003	June	VIP rates for second half of 2003 are not published Council votes to consider repeal of the VIP

2.2 The current regulations

Vessels and fisheries

Vessels are subject to the VIP requirement “if the groundfish catch of the vessel is observed on board the vessel, or on board a mothership that receives unsorted codends from the vessel, at any time during a weekly reporting period” and the vessel is assigned to one of six trawl fisheries defined in regulations (and listed in the next paragraph). (679.21(f)(1)(ii)) As a practical matter, groundfish trawl vessels carrying observers are subject to the VIP.

Regulations identify six fisheries to which trawl vessels are to be assigned for VIP purposes. There are two GOA fisheries (GOA midwater pollock and GOA other trawl) and four BSAI fisheries (BSAI midwater pollock, BSAI yellowfin sole, BSAI bottom pollock, and BSAI other trawl). Regulations provide detailed criteria for assigning vessels to one of these during a weekly reporting period, based on a vessel’s observed catch composition of groundfish species. For example, vessels are assigned to the BSAI midwater pollock fishery if they are found “fishing with trawl gear in the BSAI that results in an observed catch of groundfish from the BSAI during any weekly reporting period that is composed of 95 percent or more of pollock when the directed fishery for pollock by vessels using trawl gear other than pelagic trawl gear is closed.” (679.21(f)(2))

Calculation and publication of the VIP standard rates

The VIP regulations specify that a vessel’s bycatch rate, as determined above, during any fishing month may not exceed the bycatch rate standard set by the Secretary. The bycatch rate standards for each fishery are published twice a year in the Federal Register. These standards are established for Pacific halibut in the BSAI and GOA trawl fisheries; the non pollock trawl fisheries also are held to a red king crab bycatch rate standard in Zone 1 of the BSAI. (679.21(f)(1) , 679.21(f)(3))

The regulations require publication of the bycatch rate standards in the *Federal Register* for 30 days before they take effect, “unless NMFS finds for good cause that such notification and public comment are impracticable, unnecessary, or contrary to the public interest.” (679.21(f)(5)(i))

Bycatch rate standards are season and fishery specific. The Alaska Regional Administrator is required to publish bycatch rate standards for the first half of the year (before January 1) and for the second half of the year (before July 1). Although standards are published twice a year, “The Regional Administrator may adjust bycatch rate standards as frequently as he or she considers appropriate.” (679.21(f)(3))

These standards are based on criteria listed in the regulations. The listed criteria require a subjective balancing by the Regional Administrator. These criteria include the previous year and season rates, fishery bycatch allowances and associated closures, and anticipated groundfish catch and effort for the fishery. Other information and criteria deemed relevant by the Regional Administrator may also be considered. (679.21(f)(4)).

Rules governing individual vessel bycatch rates

Observers sample hauls and gather information on date, federal reporting area of catch, total round weight of groundfish, total round weight of halibut, and number of red king crab. Observers randomly predetermine the hauls to sample, and randomly sample a minimum of 100 kg of fish from throughout the

haul. Observers report to NMFS at least weekly with the information from sampled hauls, and allow the vessel operator to examine the data. (679.21(f)(7))

Vessels are assigned to one of the six GOA and BSAI target fisheries described above for each weekly reporting period during the month, on the basis of their retained groundfish catch composition during that week. (679.21(f)(8)) Note that a vessel might have operated in more than one of the target fisheries in different weeks during the month.

At the end of a month in which an observer has sampled at least 50% of the vessel's total hauls (retrieved while an observer was on board) the Regional Administrator is to calculate the vessel's bycatch rate for halibut and red king crab "for each fishery to which the vessel was assigned for any weekly reporting period during that fishing month." The bycatch rates reflect the weight of groundfish and halibut and the number of red king crab, that were actually sampled. No extrapolations are made to the weight and numbers in sampled hauls, or the weight and numbers caught in observed and unobserved hauls during the month. (679.21(f)(8) and (9))

Compliance

"A vessel has exceeded a bycatch rate standard for a fishery if the vessel's bycatch rate for a fishery month...exceeds the bycatch rate standard established for that fishery..." (679.21(f)(9)).

2.3 Institutional involvement

Historically, implementation of the VIP program required a high level of cooperation among five different NOAA divisions, as well as the Council:

- NMFS certified observers collected the raw data and the NMFS observer program performed quality control on the data, and conducted preliminary statistical tests on observer data to identify and transfer potential cases to NOAA Enforcement for further development. The Observer Program also transferred information on potential violations to NMFS Sustainable Fisheries Division for issuance of warning letters to potential violators.
- The Observer Program is a part of the Alaska Fishery Science Center REFM Division. The program drew on other parts of the REFM Division for scientific - and especially statistical - support.
- NOAA Enforcement developed cases and passed the evidence on to NOAA General Counsel for prosecution.
- NOAA General Counsel prosecuted cases.
- NMFS Alaska Region's Sustainable Fisheries Division prepared the notices of bycatch rate standards for publication in the Federal Register. This effort involved NOAA General Counsel and NMFS headquarters office as well. The Sustainable Fisheries Division also issued monthly warning letters.
- Twice a year, (April and October), NMFS consults with the Council on recommended bycatch rate standards. Although not required by regulations, Council concurrence with NMFS recommended standards typically is solicited by NMFS and provided by the Council.

2.4 Enforcement

Observers

The VIP depends on at-sea observer reports. Observers sample catch on the vessels while at-sea. On a catcher-processor, observers may be sampling fish coming past on a conveyer belt during different periods of time. On a catcher vessel, observers may be sampling from different portions of a catch spread out on a deck. Within the sample, halibut and red king crab are counted and weighed.

The VIP was the first management program that drew on observer data to enforce vessel specific fishery regulations. Operations could be penalized if observed prohibited species bycatch rates exceeded established standards. The intent had been to give operations an incentive to alter their fishing patterns so as to reduce PSC bycatch rates. However, the VIP also gave them an incentive to find ways to manipulate the observed bycatch rate, such as pre-sorting of halibut and crab PSC species (by culling the PSC before it reaches the observer station, and out of sight of the observer). The VIP also created an incentive for skippers to manipulate the observers' reports. Observers can be subjected to bribes, threats, and general intimidation in efforts to get them to mis-report the PSC bycatch.

Successful prosecution of rate violations depends on the willingness of credible observers to cooperate as witnesses with NOAA Enforcement and NOAA GC. Cases require sampling of 50% of the hauls made while an observer was on-board during a month. Over this length of time, more than one observer may have been observing hauls on a single vessel. The case would then require that both observers be credible and willing to cooperate. Testifying can be an imposition, potentially involving travel and time away from work, possibly a long time after the observer has moved on from the observer program and become engaged in other work.

Observer program

The observer program receives and processes observer data, and translates observer data into potential cases for submission to NOAA enforcement. The observer program receives preliminary information from observers while they are in the field which it uses to prioritize observer debriefings if there appears to be a VIP related issue. The program debriefs observers, documents potential violations, and secures evidence, including scales used by observers at sea to weigh fish.

Actual observer data is based on the samples of fish on board vessels. The observer program used these data to make inferences about monthly vessel PSC bycatch rates. The data analyses supporting these inferences were developed in-house to make robust estimates of monthly bycatch rates. Robust means "that unusual haul sampling results, obtained by an observer, do not have an inordinately large effect on the bycatch rate estimate produced by the procedure." The data was then used "to calculate a lower 95% confidence limit for the vessel's monthly bycatch rate. This confidence limit is a number such that we are 95% confident that the vessel's actual monthly bycatch rate exceeds the number." (Kappenman) Only vessels meeting this 95% threshold confidence interval standard were passed on to NOAA enforcement for further investigation. The observer program received statistical support from other persons in the REFM Division of the Alaska Fisheries Science Center.

This process could take considerable time, and result in a heavy attrition in potential cases. In May 1995, the observer program notified NOAA Enforcement of potential cases for vessels violating the VIP during 1993. The Observer Program had initially identified 49 potential cases. Of these, only 12 exceeded the

95% bycatch rate confidence interval, were associated with a scale that passed the Alaska Department of Weights and Measures certification test, were associated with an observer who followed the appropriate random sampling methods, and were associated with observers who sampled at least 50% of the hauls taken by the vessel during the relevant month. (Karp, May 18, 1995).²

NOAA Enforcement

Many of the elements of a VIP Program violation were addressed in sampling protocols and instructions developed for observers sampling in a VIP fishery. One of the principle tasks in investigating an alleged violation of the VIP Program was determining that the NMFS Certified observer(s) who were the source of the data indicating an exceedance of a bycatch rate standard had conducted their sampling in accordance with these protocols. Investigation required analysis of the observer's raw data, as well as interviews with the observer, to insure they sampled consistent with established procedures, and had adequately addressed any irregularities or unique sampling issues in their reports or logbooks.³

If analysis of the observer's data and procedures withstood scrutiny, the observer's scales, (which were removed from service and tagged as evidence once a potential VIP violation was identified), were subjected to testing and certification by Weights and Measures personnel. It was assumed accuracy of scales would be a likely area of focus for the defense. After the scales were certified to be accurate, interviews were conducted with vessel operators and company personnel, addressing their knowledge of the regulations and actions taken or not taken to reduce catch of prohibited species.⁴

The time requirement to fully investigate and document the first violations of the VIP Program was approximately 80-100 hours per case. This requirement was higher, as many of the procedures and analysis were new, and there was no prior experience with this type of violation. In light of what is now known, it is believed this requirement could be reduced by about 20-30% if these violations were investigated today.⁵

²As noted in Table 2 below, NOAA Enforcement initiated investigations into five cases in 1995. Three of these investigations were concluded without referring a case to NOAA GC. Two cases were referred to NOAA GC of which NOAA GC successfully prosecuted one. It is not clear if NOAA Enforcement received referrals from the Observer Program for violations in any other years after 1995.

³Personal communication from Ken Hansen, NOAA Enforcement, Kodiak. Alaska.

⁴Ibid, Hansen.

⁵Ibid, Hansen.

Table 2. Estimated VIP Case Activity in the BSAI

Year	Case investigations initiated	Disposed of in enforcement	Turned over to General Counsel
1991	8	2	6
1992	2	2	0
1993	2	2	0
1994	0	0	0
1995	5	3	2
1996 and after	0	0	0

Notes: Investigations may be initiated for violations in earlier years. These estimates apply to case activity in the BSAI. There were few or no cases initiated in the GOA.
Sources: NOAA Alaska Region EMIS database; Personal communications from Susan Auer and Ken Hansen.

NOAA General Counsel

Table 2 indicates that NOAA General Counsel received eight cases from NOAA Enforcement over the 13 years of the program. It prosecuted five of these, ultimately imposing fines in all cases. These cases are described in Table 3, below. Four cases involved violations that occurred between May and September, 1991, and one case involved violations that occurred in May, 1993. In the first instance, these cases are brought before a NOAA administrative law judge. Defendants have the right to appeal to the NOAA Administrator, and then to the federal court system. Of the five cases prosecuted by NOAA GC, two were settled without being brought before an administrative law judge, one case was appealed to federal district court, and two were appealed to the federal circuit court. The two cases appealed to the circuit court were for violations in June and July, 1991; the Defendants made their decision not to appeal to the U.S. Supreme Court in August, 2003. The cases resulted in penalties ranging from \$30,000 to \$100,000.⁶

VIP cases have a relatively large number of elements that must be proved, but the individual elements are not unusually complex. The large number of elements exist because a large number of items are treated as policy and handled in manuals outside of regulations; in other situations, elements such as random sampling requirements, have been included in regulations. The key problem is that NOAA GC must prove a violation that takes place over a period of a month. During the course of a month, a number of observers may serve on an individual vessel. The case will only be as good as the conscientiousness and credibility of the weakest of these observers. Moreover, a case will depend on the willingness of an observer to testify. Given the lags in data collection and in preparing a case, a case may not reach a NOAA administrative law judge until a couple of years following the violation.⁷ Some of the observers who may be needed as witnesses may have left the program by that time. While a reluctant witness might be subpoenaed, they cannot be forced to be cooperative witnesses.

⁶Auer, Susan. NOAA GC Alaska Region. P.O. Box 21109, Juneau, Alaska. 99802-7414. Personal communication. August 26, 2003.

⁷An observer would only be required to testify at the hearing before the administrative law judge. They would not be required for subsequent appeals.

Table 3. NOAA GC prosecutions under the VIP program

Date of violation	Details
May, 1991	Vessel owners appealed to district court and lost. Assessed a penalty of \$79,000.
July-August, 1991	Two vessels owned by the same party with separate violations. Appealed to 9 th Circuit Court and lost. Decided not to appeal further in August 2003. Assessed a penalty of \$100,000 per vessel for a total of \$200,000.
July-August, 1991	
Sept, 1991	Settled for \$30,000.
May, 1993	Settled for \$30,000.
Source: Auer, Susan. NOAA GC. Personal Communication. 8-26-03.	

2.5 Publication of VIP standard rates

The in-season management team of the National Marine Fisheries Service's Sustainable Fisheries Division prepares information for the Council's April and October meetings. This information contains proposed VIP standards for the coming half year, and, for context, historical by-catch rates for each species and fishery in past years. Table 4 is a typical, recent, example of these presentations.

In 2001 Sustainable Fisheries prepared a more detailed analysis for the October 2001 Council meeting that provided information on fleet performance under the VIP bycatch rate standards. In addition to the table of average rates per quarter, that had accompanied past bi-annual submissions to the Council, Sustainable Fisheries analysts prepared a variety of figures showing the distribution of individual vessel-month PSC rates, and compared these to the rates that were proposed for the coming half year. This presentation is provided as an appendix to this discussion paper.

The Council reviews the presentation from Sustainable Fisheries and makes recommendations for the VIP rates for the coming half year. These recommendations haven't changed since the first quarter of 1995. Following Council action, the rate standards are published as a notice in the *Federal Register*.

Table 4 Bycatch rate standards and observed bycatch rates, 1999-2003

1999 - 2003 (through March 14, 2003) observed bycatch rates, by quarter, of halibut and red king crab in the fishery categories included in the vessel incentive program. Also listed are the bycatch rate standards in effect since 1995.						
Halibut Bycatch (Kilograms Halibut/metric ton Allocated Groundfish Catch)						
<u>Fishery and quarter</u>	<u>Bycatch Rate Standards</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>
BSAI Midwater Pollock						
QT 1	1	0.15	0.05	0.13	0.08	0.09
QT 2	1	-	0.15	0.15	0.05	
QT 3	1	0.06	0.11	0.17	0.15	
QT 4	1	0.04	0.13	0.22	0.11	
BSAI Bottom Pollock						
QT 1	7.5	1.29	0.16	0.82	0.68	2.13
QT 2	5	-	4.50	1.89	-	
QT 3	5	3.87	0.68	3.17	0.74	
QT 4	5	0.13	1.95	0.63	12.44	
BSAI Yellowfin sole						
QT 1	5	4.21	6.21	19.74	5.21	11.60
QT 2	5	7.30	3.96	18.54	14.02	
QT 3	5	18.59	12.80	7.55	10.64	
QT 4	5	24.26	11.41	13.38	13.34	
BSAI Other Trawl Fisheries						
QT 1	30	14.54	8.19	11.04	10.22	16.23
QT 2	30	24.83	21.08	23.79	25.97	
QT 3	30	6.12	9.79	8.92	7.01	
QT 4	30	8.71	4.57	5.70	25.07	
GOA Midwater Pollock						
QT 1	1	0.31	0.04	0.17	0.02	0.02
QT 2	1	0.23	0.04	-	-	
QT 3	1	0.12	1.91	0.95	0.02	
QT 4	1	0.03	0.56	0.06	0.01	
GOA Other Trawl Fisheries						
QT 1	40	26.23	32.48	10.92	20.41	27.80
QT 2	40	58.88	58.87	56.84	66.77	
QT 3	40	37.98	18.14	27.46	22.93	
QT 4	40	58.20	69.04	56.85	36.81	
Zone 1 Red King Crab Bycatch Rates (number of crab/mt of allocated groundfish)						
BSAI Yellowfin sole						
QT 1	2.5	0.01	0.09	0.57	0.47	1.34
QT 2	2.5	0.03	0.01	0.08	1.76	
QT 3	2.5	0.43	1.08	0.04	-	
QT 4	2.5	0.15	0.25	1.12	0.68	
BSAI Other Trawl Fisheries						
QT 1	2.5	0.04	1.38	0.09	0.12	0.12
QT 2	2.5	0.06	0.20	0.00	0.72	
QT 3	2.5	0.25	0.00	0.07	0.00	
QT 4	2.5	0.02	0.00	0.00	0.00	

In recent years, under the guidance of NOAA General Counsel, concerns have been raised about the procedures used to publish the VIP rates. The regulations call for publication in the *Federal Register* for a 30 day public comment period unless NMFS “finds for good cause that such notification and public comment are impracticable, unnecessary, or contrary to the public interest.” Since the VIP was first implemented, NMFS had been using this good cause exemption to expedite the publication and not publish a proposed rule for comment. In the Spring of 2003, NMFS concurred with NOAA GC that the rationale on which good cause waiver of prior notice and opportunity to comment was based did not constitute adequate justification for such a waiver. VIP notices will normally require proposed and final rulemaking, along with the attendant analyses and process that proposed and final rulemaking require under applicable law. This will increase the analytical requirements, the commitment of rulemaking resources, and the time required to implement a set of bycatch rate standards.

Proposed and final rules necessary to establish bycatch rate standards twice a year will increase the review time required prior to publication of notices. Moreover, the notices will have to receive at least 15 days of opportunity for public comment, and have a 30-day delay in effectiveness after publication of the final rule. This will increase the time required between Council consideration and the date of publication. While the Council currently deliberates on the standards for the first half of the year in October, it will now have to do so no later than June. While it currently deliberates on the standards for the second half of the year in April, it will now have to do so no later than February.

At the time it became clear to NMFS that the rulemaking being required to establish bycatch rate standards also would require necessary analyses and review tiers associated with regulatory amendments, it was too late in 2003 to follow this process and establish these standards for the second half of 2003. Rather than waive prior notice and opportunity for comment at the expense of the Administrative Procedure Act in order to meet a deadline for a program it was no longer enforcing, NMFS did not publish VIP rates for the second half of 2003.

2.6 Warning letters

Warning letters were sent to the owners of vessels that appeared to have violated VIP rates over the period of a month. These letters were not required by regulation, but were used by NMFS to remind vessel owners that bycatch rates were being monitored and that vessels that exceeded standard rates should take steps to reduce bycatch rates in the future. At the request of industry, NMFS also posted on a NMFS website vessel specific bycatch rates so that vessel owners could access this data and use it as a source of information on how their vessel's rate compared to other vessels and/or to take action to reduce rates to maintain compliance with the VIP.

The warning letters were issued by the Sustainable Fisheries Division of the Alaska Region. Each month the Observer Program would send to Sustainable Fisheries a list of vessels whose PSC bycatch rates had exceeded published standard rates. The owners of vessels that had potentially violated a bycatch rate standard would then be sent a warning letter.⁸ These letters notified vessel owners that their vessels were potential violators of the VIP with respect to a specific PSC species at a given time in a given fishery. They were notified of the estimated average bycatch rate at that time. They were further told that they were subject to potential prosecution, pending verification of the indicated overage.

At times, these letters were sent after a considerable lag time from the month of the violation. For example, in

⁸Lori Gravel, National Marine Fisheries Service, Alaska Region. P.O. Box 21668. Juneau, Alaska. 99802-1668. Personal communication, 8-20-03.

May 1998, the Observer program provided Sustainable Fisheries with a list of vessels that appeared to have exceeded VIP rates in January 1998. In January 1999 the program provided a list of vessels that appeared to have exceeded VIP rates in September 1998. In April 1999, letters were sent out dealing with violations in August 1998. (Karp, memos, 5-29-98, 1-26-99). Furthermore, the letters were not sent out continuously over the entire period. The record suggests that there was a gap in 1994 and 1995. An examination of the record indicates that very few warning letters were sent out in 1994 or 1995. The letter writing program appears to have begun again in the summer of 1996, when the observer program began to forward information on potential violations to Sustainable Fisheries. The program began by bringing Sustainable Fisheries up to date on potential violations from January 1996. The record suggests that the Observer program workload led to backups in warning letters in 1999. The program appears to have brought the letters up to date in June. The last notices received by Sustainable Fisheries arrived in August 1999 for May violations. These letters were sent out in September. No letters have been sent out since then.

2.7 VIP and evolving PSC bycatch policy

Bycatch mortality results from fishing practices that are based on prevailing regulatory and economic circumstances and personal preferences of vessel owners/operators. The Council has developed or considered alternative management regimes that are intended, in part, to provide incentives to reduce bycatch by creating market mechanisms to be used to the opportunities to fish among competing users and removes the race for fish. Under an allocation program, individual fishermen "pay" for the fish, including bycatch, and thus have an effective incentive to minimize bycatch to the extent they can.

Management programs that have been adopted by the Council and approved by NMFS that provide an appropriate environment for vessel operators to make decisions to minimize bycatch include the Western Alaska Community Development program and the pollock fishing cooperatives under the American Fisheries Act. Both of these programs allocate the percentages of TACs to groups of like minded persons who work together to optimize revenue from the fishery partly through cost effective use of bycatch that essentially minimized bycatch amounts overall to the extent practicable. Some groups of fishermen are attempting to voluntarily emulate a cooperative-type environment without direct allocations to accomplish common objectives, including minimization of bycatch. An example of this approach is the Atka mackerel fleet which recently agreed within itself to certain practices and protocol to optimize the catch of Atka mackerel, while operating in a manner that could reduce bycatch amounts of rockfish species, the bycatch of which could result in premature closure of the Atka mackerel fishery.

Other bycatch allocation programs considered by the Council, but not fully developed and implemented due to monitoring or enforcement hurdles include the vessel bycatch allowance (VBA) program, and the halibut mortality avoidance program (HMAP). The Council currently is considering an alternative to these two programs in the BSAI that would allocate groundfish and bycatch to fishing sectors that then would be positioned to form fishing cooperatives and create the type of allocation and market mechanisms to promote better decisions at the individual level to reduce bycatch. The Council also is developing a rationalization program for the Gulf of Alaska that would have many of the same objectives with respect to bycatch.

Until fisheries are rationalized to remove the "race for the fish" syndrome, the Council has taken numerous steps since the implementation of the VIP to reduce bycatch overall, not just of prohibited species. The increased retention and utilization program for BSAI and GOA pollock and Pacific cod was implemented in 1998 and resulted in a significant reduction of bycatch (discard) of these two species in both target and non target fisheries. This program was expanded to include specified flatfish in the GOA in 2003. The IR/TU program for yellowfin sole and rock sole in the BSAI that was approved for implementation in 2003 was subsequently repealed due to significant hardship and burden on industry it would have imposed. In response, the Council recently adopted a scheduled reduction of BSAI groundfish discard amounts in the non

AFA trawl catcher processor sector. This program has yet to be submitted to the Secretary of Commerce for review and implementation. The Council also has taken action to reduce regulatory and economic discards through the use of and revision to maximum retainable amounts of non target species.

To more directly limit the bycatch of prohibited species since the VIP was implemented, the Council has adopted and NMFS has implemented numerous actions to revised or establish PSC limits, as well as prohibit the use of bottom trawl gear in the BSAI pollock fishery to reduce bottom habitat disturbance and PSC catch of halibut and crab. This gear restriction was accompanied by a reduction in the halibut PSC limit as well.

Last, different industry sectors have developed information networks in which a contractor hired by industry receives timely inseason observer data on bycatch rates of prohibited species. This information is then parsed out to industry members who now have the information that allows them to elect to move to different fishing grounds to avoid undesirably high bycatch rates. In some cases, cooperating industry members monitor bycatch of species, e.g., salmon, and as a group agree to voluntarily cease fishing in areas that exhibit undesirably high rates of bycatch.

In summary, PSC bycatch policy is in the process of evolving from the strategy of treating the symptoms of bycatch and related management problems to attempting to eliminate the cause of unacceptable level of bycatch itself.

2.8 Has the VIP program been effective?

Problems with VIP program evaluation

We can observe vessel behavior and VIP rates prior to the effective start of the program in May 1991, and we can observe behavior and rates from May 1991 on. We cannot observe what the behavior in the fishery would have been from May 1991 on if the VIP program had not been implemented. Although ideally we would like to compare behavior and rates with and without the program under the conditions prevailing since May 1991, we are limited to a comparison of behavior and rates before and after 1991. The value of this comparison is not as great since many background factors might have changed from before and after 1991, and this may confound our ability to ascribe causation to the VIP program.

Moreover, program enforcement has varied in intensity over the life of this program. The effectiveness of the program depends on the strength of the incentive it provides, which in turn depends on the level of enforcement. If enforcement is weak, and fishing operations can ignore its provisions without serious consequences, the program incentive will be weak. Throughout the program, observers have been collecting data that could potentially be a basis for enforcement actions. From 1991 to 1993 and again, from 1996 to 1999 the Observer Program and Sustainable Fisheries cooperated to send out warning letters, indicating to fishermen that they were being monitored with respect to VIP rates, and that enforcement actions were possible. Four actions were brought for enforcement violations in 1991 and one for violations in 1993. There have, however, been no prosecutions for violations occurring since 1993. There are no entries for investigations in the NOAA Enforcement data base since 1995. Moreover, as noted in the previous section, overall bycatch policy has been evolving through time. This has also changed the environment within which the program occurs, making comparisons more difficult.

The Renko thesis

In a 1996 Master's thesis for the University of Washington School of Marine Affairs, Becky Renko, evaluated the success of the VIP program in reducing halibut bycatch rates and its performance as a "bycatch management program." This has been the only scientific review of program success.

Renko compared fishing operations in regulated fisheries in 1990 with those prevailing from May 1991 through 1996. Thus the strength of her results is unavoidably limited by the different background conditions potentially prevailing during the two periods. Renko evaluated VIP impacts in both the BSAI and GOA. Her conclusions (which appropriately recognize the potential changes in background conditions) were:

“Between 1990 and 1996 bycatch rates for all 100% CP/MP vessels in the GOA and BSAI trawl fleets changed little. However, bycatch rates from vessels that met the “dirty” vessel criteria tended to be lower from 1991 to 1996. Regardless, in relation to the numerous management measures aimed at reducing halibut bycatch and bycatch rates...the overall fleet bycatch rates did not noticeably change. It is unclear whether this is the result of ineffective halibut reduction measures or if the halibut biomass has increased over this period resulting in a net decrease in bycatch rates in relationship to biomass.

“Recent stock assessment estimates indicate that halibut biomass may be larger than previously estimated and has actually increased in some areas since 1994...The effectiveness of rate based programs such as the VIP may be influenced by fluctuations in distribution and abundance of both halibut and the desired target species. This is especially true if the rate is based on halibut bycatch quotas that are unrelated to changes in biomass. If biomass increased during this period, maintaining similar bycatch rates over time would have resulted in a reduction in the proportion of the halibut stock taken as bycatch. However, it is not clear that this is in part or wholly the result of the VIP.

“At the individual vessel level, I found that there were a few vessels that attained the “dirty” vessel status in most years they fished following implementation of the VIP. In both the GOA and the BSAI there were numerous late entrants into the fishery that also attained the “dirty” status in multiple years. The number of vessels that maintained a “dirty” vessel status and the number of new entrants that became “dirty” seems to indicate that the VIP was not effective enough to be seen as a serious threat to these vessels that either could not or chose not to maintain bycatch rates below the standards.

“It is important to note that this evaluation is based on in-season data which has been used for harvest management. No adjustments are made in the data to account for sample bias related to vessel efforts to reduce the observed bycatch rate and thereby avoid detection as a VIP violator. Information currently available is not adequate to assess the extent and impact of such a behavioral change. Therefore, it is not possible to isolate vessels that successfully decreased halibut bycatch and lost their “dirty” vessel status, from those that successfully manipulated estimates of halibut bycatch...” (Renko, pages 88-89).

Renko concluded,

“Evaluation of the program’s performance as a bycatch management program reveals that the VIP has not played a serious role in reducing halibut bycatch rates. The primary reasons for the conclusion are: 1) the penalty system does not allow for the creation of true economic incentives, 2) the so-called “dirty” vessels are not consistently penalized, 3) manipulation of observed bycatch rates may be used effectively to avoid detection, 4) lack of long-term halibut bycatch management goals that are accepted by both the groundfish and halibut industries, 5) the VIP has not been presented as a component of a comprehensive plan aimed at addressing all factors contributing to the identified halibut bycatch problem, 6) the lack of fishermen education and an ongoing exchange of

information regarding bycatch hotspots and successful avoidance techniques.” (Renko, 1996, pages i-ii)

Mean bycatch rates

Table 4 shows mean PSC rates by quarter and defined target fishery for the period from 1999 to the first quarter of 2003. The average rates can be compared to the published bycatch rate standards. This table suggests that VIP rate problems are concentrated in certain of the defined fisheries. The mean halibut rates in the BSAI mid-water pollock and bottom pollock fisheries, the GOA midwater pollock fishery, the BSAI other trawl fisheries, rarely came close to the rate standards. The rate standard was only exceeded in two quarters for these six fisheries over 17 quarters included in this time period. The mean red king crab rates never exceeded the published standards in any quarter in either of the two fisheries covered.

Problems appear to be concentrated in the BSAI yellowfin sole trawl fishery, and in the GOA other trawl fisheries. The BSAI yellowfin sole fishery only met the halibut rate twice out of the 17 quarters. The GOA other trawl fishery usually met the standard in the first and third quarters, but usually exceeded it in the third and fourth quarters.

The mean bycatch rates may be a misleading guide to the success of the VIP program. As noted below, pre-sorting and pressure on observers to mis-report may be common in these covered fisheries. To the extent that these are pervasive activities, the mean reported rates may be low. Moreover, the VIP program is focused on individual behavior, and mean bycatch rates for a fishery as a whole do not provide much insight into individual vessel activity.

Distribution of bycatch rates by vessel month

The Appendix contains a set of tables prepared for presentation to the Council at its October 2001 meeting, when it was preparing to recommend VIP rates for the first half of 2002. These provide considerable detail on level of compliance activity at the vessel level. These tables provide information on the distribution of vessel month bycatch rates over the ten quarters from 1999 through the first half of 2001.

One set of these tables provide information on the cumulative distribution of vessel month rates. Table 5 below, summarizes the results from these figures.

Table 5. Vessel-months in compliance with the PSC standard, by fishery, 1999- 2nd Q 2001.

Fishery	Standard rates	Compliance
BSAI midwater pollock (halibut)	1 kg/mt all quarters	99.67% of vessel months in compliance
BSAI bottom pollock (halibut)	7.5 kg/mt in Q1, else 5 kg/mt	65% ≤ 5kg/mt; 69% ≤ 7 kg/mt
BSAI yellowfin sole (halibut)	5 kg/mt each quarter	52% of vessel months in compliance
BSAI other trawl fisheries (halibut)	30 kg/mt each quarter	71% of vessel months in compliance
GOA midwater pollock (halibut)	1 kg/mt each quarter	92% of vessel months in compliance
GOA other trawl (halibut)	40 kg/mt each quarter	70% of vessel months in compliance
BSAI yellowfin sole (red king)	2.5 crab/mt each quarter	91% of vessel months in compliance
BSAI other trawl fisheries (red king)	2.5 crab/mt each quarter	95% at 2 mt or less
Notes: Summarized from appendix figures.		

Unintended impacts

The VIP imposes costs on fishermen with high observed prohibited species bycatch rates. This has created an incentive for fishermen to reduce these observed rates. They can do this by changing the patterns of their fishing behavior. They can also do this by manipulating the observer reported rates. For example, fishing operations may arrange to pre-sort their catches, to eliminate some or all of the prohibited species before these reach the observer station. Fishing operations may also try to bias the observer's reporting. These are illegal actions, and their incidence is unknown. However, as discussed below, it is known that the VIP increases the incentives for these actions. Anecdotal evidence from knowledgeable persons in the observer program and NOAA Enforcement suggests that the incidence of these activities may be serious. (Renko, Hansen, Loefflad).

The incentives for these actions are increased by the VIP program. Without the program, high PSC bycatch rates may lead to a shorter fishery. This does create an incentive to misreport in hopes of extending the groundfish fishery for everyone. But the incentive is mitigated since the costs of a premature closure would be shared with all the other operations in the fleet, and not borne entirely by the vessel with the high rates. However, under the VIP, high rates tracked to a particular vessel can lead to fines totaling tens of thousands of dollars - for a particular vessel.

Manipulation of halibut and red king crab bycatch rates is illegal and would bias the data which managers use to manage the fisheries concerned. Moreover, this manipulation creates concerns about the overall integrity of the data collected by the observer program and this has important implications for all

management actions that depend on observer data.

3 Alternatives

Three alternatives are reviewed in Chapter 4. Two of these alternatives each have two options associated with them. The three alternatives are: (1) No regulatory action to change or abolish the program (continue to publish bi-annual standard rates and renew commitment to program enforcement); (2) modify the program to reduce the frequency of rate publication (the two options to this alternative are to publish rates once a year, or to incorporate rates in regulation so as to eliminate the need for periodic publication); (3) remove the regulatory authority for the VIP program (the two options to this alternative are to eliminate the program at the FMP-level as well as eliminate it in regulations, and to simply eliminate it in regulations).

3.1 No action alternative

Under the “no action” alternative, there would be no regulatory action to change or abolish the VIP program. Under this no action alternative, NMFS will continue to publish VIP rates bi-annually through notice and comment rulemaking. Sufficient additional resources would be devoted to enforcement to pursue up to six cases a year.⁹

3.2 Notice schedule alternatives

Under this alternative, the existing VIP program would be retained in the BSAI and GOA FMPs, and in regulation. This alternative, however, would differ from Alternative 1, the no action alternative, in that the VIP rates would be published on a different schedule. This Alternative has two options.

Option 1: With annual VIP rate publication

Under this alternative, the existing VIP program would be retained in the BSAI and GOA FMPs, and in regulation. Regulations implementing the VIP would be revised to accommodate an annual rather than bi-annual process for establishing VIP rates; these rates would be established annually through proposed and final rulemaking. Sufficient additional resources would be devoted to enforcement to pursue up to six cases a year.

Option 2: With VIP rates placed in regulation

Under this alternative, the existing VIP program would be retained in the BSAI and GOA FMPs, and in regulation. The current VIP regulations would be amended to establish VIP rates in regulations through a one-time rulemaking. A subsequent regulatory amendment would be required to make a change in VIP rates. Sufficient additional resources would be devoted to enforcement to pursue up to six cases a year.

⁹Six cases was considered appropriate in internal NOAA GC and NMFS discussions in 1995. While this appears to have been considered adequate to deter violations, the record is not clear why six cases, and not more or fewer, were considered appropriate. It is assumed that the six cases represent the consensus judgement of the fishery management professionals involved.

3.3 VIP program elimination alternatives¹⁰

This alternative would eliminate the VIP program. This alternative has two options.

Option 1: FMP Amendment to eliminate the VIP program

Section 4.2.4 of the Fishery Management Plan (FMP) for the GOA (“Incentive programs to reduce bycatch rates of halibut”) provides that:

“The Secretary of Commerce, after consultation with the Council, may implement by regulation measures that provide incentives to individual vessels to reduce halibut bycatch rates of halibut for which PSC limits are established under Section 4.2.3.1. The intended effect of such measures is to increase the opportunity to fish groundfish TACs before established PSC limits are reached by encouraging individual vessels to maintain average bycatch rates within acceptable performance standards and discourage fishing practices that result in excessively high bycatch.”(Council, July 1999, page 23.)

Section 13.4.2.4 of the FMP for the BSAI (“ Incentive programs to reduce bycatch rates of prohibited species”) provides that:

“The Secretary of Commerce, after consultation with the Council, may implement by regulation measures that provide incentives to individual vessels to reduce bycatch rates of prohibited species for which PSC limits are established under Section 13.4.2.2. The intended effect of such measures is to increase the opportunity to harvest groundfish TACs before established PSC limits are reached.” (Council, July 2002, page 294.)

This alternative would eliminate the authority for a vessel incentive program in the FMP, as well as in regulation. This alternative would require FMP and regulatory amendments.

Option 2: Regulatory Amendment to eliminate the VIP program

Regulations providing for the VIP program are located at 50 CFR §679.21(f). The FMP language does not require an incentive program. It would therefore be possible to eliminate the VIP program by deleting this section of the regulations without changing the FMP language.

3.4 Baseline

To facilitate a comparison of the alternatives, each has been compared to a baseline of no program, no enforcement activity, no warning letters, and no bi-annual, or other, notices of VIP rates in the designated fisheries, and no regulatory or FMP changes. Under this baseline, it is assumed that fishing operations would not alter their behavior to comply with VIP.

¹⁰These two alternatives change regulations to eliminate the VIP program. They do not affect other measures intended to address the problem of PSC bycatch. In particular, they do not affect the publication of vessel specific PSC bycatch rates pursuant to 50 CFR 679.50(k).

4 Tradeoffs among the alternatives

4.1 Biological management

Prohibited species are protected by regulatory provisions that require the closure of a directed groundfish fishery when the PSC apportionment for that fishery is caught. Thus, PSC limits established in regulations help protect halibut and crab. The VIP program is only concerned with the rates of halibut bycatch in the BSAI and GOA, and with red king crab in Zone 1 of the BSAI. Increased compliance with the VIP rates likely would not affect the overall catch of these prohibited species. However, compliance with the VIP rates would result in increased catch of groundfish before PSC limits are reached.

Improved enforcement of the VIP program under Alternatives 1 and 2 may have three biological impacts: (1) increased catch of target groundfish species, (2) changes in the location of catch, and (3) increased incentive for vessel operators to attempt to manipulate reported PSC rates through pre-sorting and intimidation or corruption of observers. Each of these issues is discussed below.

Enforcement of the VIPs in a manner that resulted in substantial compliance might reduce PSC bycatch rates in target fisheries and make it possible for operations to more fully catch TACs. Halibut and Zone 1 red king crab PSC limits don't constrain in every fishery in which they are applied. The key fisheries they do constrain are the yellowfin sole and rock sole fisheries in the BSAI, and the deep water flatfish complex and the shallow water flatfish complex in the GOA. In these fisheries PSCs routinely constrain catch before TACs are reached. Experience in these four fisheries is summarized in Table 6 below.

Table 6. Fisheries typically constrained by halibut and red king crab PSC limits

Fishery	Examples and comments
BSAI yellowfin sole	<p>In 2000, the yellowfin catch was constrained to about 84,000 mt out of a TAC of 104,773 mt due to halibut bycatch. Over the next two years, the Council reduced the yellowfin sole TAC, presumably because yellowfin sole fishermen were unable to catch it due to PSC constraints and because the pollock TAC grew. Fish were reallocated to the pollock fishery, whose TAC grew during this time. In 2002 yellowfin sole fishermen fully caught their TAC of 73,100 mt.</p>
BSAI rock sole	<p>In 2000, the rock sole catch was constrained to about 49,000 mt out of a TAC of 114,546 mt due to halibut bycatch. Over the next two years, the Council reduced the rock sole TAC, presumably because rock sole fishermen were unable to catch it due to PSC constraints. Fish were reallocated to the pollock fishery, whose TAC grew during this time. In 2002 rock sole fishermen caught about 41,000 mt of their TAC of 45,900 mt.</p> <p>The rocksole/other flatfish/flathead sole target fishery was closed in Bycatch Limitation Zone 1 on February 22, 2002 due to catch of red king crab. Taking the limit of 59,782 crab forced the fishery to move away from Zone 1 into areas of lower rock sole catch and higher halibut bycatch. By March 1 the fishery was closed across the BSAI due to halibut mortality.</p>
GOA shallow water flats	<p>Separate TACs are established in the Western and Central Gulf areas. The Western Gulf TAC was 4,500 mt from 2000 to 2002. Catches from 2000 to 2002 ranged from 207 mt to 560 mt. The Central Gulf TAC was about 13,000 metric tons from 2000 to 2002. Actual catches have been constrained by halibut from 5,955 mt to 6,913 mt.</p>
GOA deep water flats	<p>Separate TACs are established in the Western and Central Gulf areas. The Western Gulf TAC ranged from 180 to 280 mt a year, from 2000 to 2002. Catches ranged from 19 to 27 mt. The Central Gulf TAC has ranged from 2,220 to 2,710 from 2000 to 2002. Actual catches have been constrained by halibut from 531 to 816 mt.</p>

In the BSAI, the size of the increase in yellowfin sole and rock sole catches associated with effective VIP compliance would depend on Council TAC setting decisions during the annual specifications process. In recent years, the Council appears to have responded to the failures of these fisheries to fully take their quotas, by reducing those quotas and reallocating the available metric tonnage to the pollock fishery. Since BSAI TACs are pressing up against the overall two million metric ton optimum yield (OY), expansion of the pollock fishery to take advantage of large biomass levels required the reduction in catches in other fisheries. Depending on Council decisions, an increase in yellowfin sole and rock sole TACs could require a reduction in pollock TACs and reallocation to the yellowfin and rock sole fisheries.

Observer reports are a vital part of current fisheries management. If renewed enforcement of the VIP program creates additional incentives for fishing operations to pre-sort catch, or to pressure observers to misreport, the usefulness of observer information would be reduced. The actual estimates of prohibited species bycatch would lose reliability. Moreover, to the extent that fishing operations were encouraged to presort, and to the extent that observers began to misreport, the activity could affect the reliability of other information provided by observers.

4.2 Social and economic implications

The impacts of a renewed VIP enforcement program will depend on the credibility of the enforcement and prosecution effort. If violators can expect to receive an appropriate and timely fine, they should have an incentive to modify their behavior. If so, the potential benefit is more fishing time in their groundfish target fishery, larger catches, and increased profits.

The value of increased yellowfin and rock sole catch in the BSAI, and of increased deep and shallow water flatfish catches in the GOA, would be offset to some extent by increased fishing costs as fishermen exercise more care in avoiding bycatch.

A reallocation of BSAI pollock TACs to the yellowfin and rock sole fisheries would reduce net revenues in the pollock fishery. This would reduce the benefits from a national economic accounting stance. It would constitute a benefit to the yellowfin and rock sole fishermen and a cost to the pollock fishermen. These are two different fleets with little overlap.

The VIP has increased industry incentives to discard prohibited species bycatch before observer sampling takes place. The Observer Program receives frequent reports of pre-sorting and has worked with Enforcement to develop some cases. In addition to reducing the chances of VIP violation, presorting causes overall under-reporting of PSC bycatch rates and is, therefore, of serious concern. Further, the VIP has increased the incentive for vessel operators to pressure observers and/or observer contractors to underreport halibut bycatch.

4.3 Regulatory and enforcement demands

Assumptions underlying analysis of enhanced enforcement

In May 1995, Alaska Region staff from the Observer Program, NOAA Enforcement, NOAA General Counsel, and NMFS Sustainable Fisheries Division met at the request of the Alaska Regional Administrator, to examine what steps would be necessary to revitalize the VIP that, at that time, appeared to be in trouble. This meeting represented a significant attempt to identify and address the program's deficiencies. The staffers listed the resources required to meet a target of six prosecutions per year. At that time, it appeared to them that the following additional program resources would be required:

- Two additional debriefers added to the observer program (to provide information leading to the development of VIP cases in a more timely manner)
- One additional resource management specialist for the observer program to facilitate preparation of observer memos and warning letters and to assist enforcement and GCAK in selecting cases for prosecution
- Two enforcement agents to select and pursue potential cases of violation. (Three if an agent was to be detailed to the observer program to facilitate case development)
- One additional prosecution attorney (looking at six cases a year)

The memo summarizing the results of this meeting has been used as the starting point to evaluate the current requirements for the renewal of program enforcement. The 1995 target of six cases per year has been adopted here. In the time since 1995, the political and fishing environment has changed, and some of the 1995 recommendations may no longer be apply given current conditions. These recommendations have been modified below as appropriate.

In the absence of increases in funding, increases in agency responsibilities to conduct investigations or

prosecutions can only be met by reducing time and resources devoted to other activities. This inevitably means that, unless additional funding is made available, fewer resources will be devoted to enforcing other regulations. The discussion below estimates costs for the personnel required to prosecute six VIP cases a year. However, there is no guarantee that this additional funding will be made available. In the absence of additional funding, the true cost of a renewal of VIP enforcement will be a reduction of effort in other functional areas.

Costs associated with publishing rates

Publication of semi-annual VIP rates through a proposed and final rulemaking process, with associated analyses, would require increased commitments of resources by NMFS and NOAA, and would increase the time required to prepare and publish the rates. Notice and comment rulemaking could require increased time to prepare rulemaking packages and associated analyses by Sustainable Fisheries Division staff, and would involve additional review by supervisory personnel, the regional economist, NOAA GC staff attorneys, NMFS headquarters staff, and Department of Commerce GC. The time required for preparation and review would be longer. The proposed rule couldn't be published until after Council review which would now have to take place at an earlier Council meeting (probably June for the first half of the year and the following February for the second half).

This preparation and review time would probably be reduced following the first one or two rule-making cycles, assuming the VIP rates would continue to change only at long intervals (they have not changed since 1995) and that much of the analysis and document preparation from one notice could be used for the next. However, publication of the proposed and final rules cannot be reduced to a rote exercise. The VIP rates cannot be arbitrary and capricious. The record must show that they bear a reasonable relationship to the goals of the program and that they have been analyzed appropriately. This burden could be cut in half by amending regulations so that the VIP rates were only published once a year, and cut further by amending regulations so that the VIP rates were incorporated into regulation.

Costs associated with increased enforcement efforts

The first step in enforcing the VIP is to identify potential violators from a preliminary screening of observer data. This process involves a statistical treatment of data, as well as Observer Program staff time to interface with enforcement in the event potential violations are pursued. Currently, the Observer Program does not have a statistician to conduct routine assessments of observer data for purposes of the VIP and this expertise must be provided if the VIP is to be enforced. This expertise likely would not require a full time position. Other Observer Program staff resources would be required to provide staff support to both enforcement agents and NOAA GC as cases are developed for prosecution. The total expected additional cost to the Observer Program likely would total the cost of one full time position, or \$150,000.

Enforcement's role is to take the potential violations identified by the Observer Program, investigate, determine which cases should be pursued, and then collect the evidence that would allow NOAA GC to prosecute the cases. The main costs of this activity are those for enforcement agents' time and travel. Estimates from persons within NOAA Enforcement suggest that one to two agents may be necessary to investigate six cases a year. In addition, it would be helpful to have part of an agent FTE co-located with the observer program in Seattle, to work with program staff in identifying potential cases. Given that an agent can do somewhat more than three cases a year, and that the agent co-located in Seattle would only work on VIP cases part time, the enforcement requirements are estimated to be two agent FTEs. These cost \$150,000 each, producing a cost estimate between \$150,000 and \$300,000 a year. Although there would be additional travel time associated with gathering evidence for a case, co-location of an agent in Seattle would permit reductions in travel time currently incurred. On balance, the program would not be

expected to increase travel costs.¹¹

In 1995, NOAA General Counsel believed that a new attorney would be required to handle six additional cases. (Auer *et al.*) In 2003, the projected work requirements had been reduced. NOAA General Counsel can handle the additional workload associated with six VIP cases a year by adding a GS-11 to GS-13 paralegal. These work responsibilities would not fully utilize the paralegal's time. A starting GS-11, based in Juneau, with all overhead costs, is estimated to cost about \$110,000. It is assumed that such a position would be devoted half time to VIP cases for an estimated cost of \$55,000. Note that these are conservative assumptions, and that the cost would increase as the paralegal acquired tenure and advanced in step and grade.¹²

Cases tried before an administrative law judge and possibly appealed, will use additional legal system resources. These include the time required for the judge to hear the case and prepare a decision, and the time invested in the case by defense counsel. Legal actions will also require commitments of time by defendants, or by the officers of defendant companies. Current or former observers will be required as witnesses at the administrative judge level, and this will impose additional time and travel expenses.

Summary of Management and Enforcement Cost Estimates

The management and enforcement cost estimates from the preceding discussion are summarized in Table 7. Cost estimates are provided if available. If additional funding is not forthcoming for a renewal of the VIP enforcement effort, the cost will be a reduction in the ability of these divisions of NOAA to meet their other responsibilities.

¹¹Personal communication, Jeff Passer, SAC, Juneau, August 21, 2003.

¹²Personal communication. Susan Auer, 8-21-03; Stacy Masters, 8-22-03.

Table 7. Summary of Management and Enforcement Costs

NMFS or NOAA division	Program element	Cost Estimate (\$/year)	Comments
Observer Program	Collection of PSC rate data. Statistical assessment and evaluation of the data and initial preparation of cases to turn over to NOAA Enforcement	\$100,000	1 part time statistician and other staff support to NMFS Enforcement and NOAA GC
NOAA Enforcement	Develop cases to turn over to NOAA GC	\$150,000 to 300,000	An estimated 1 to 2 Agent FTEs. Probably little additional travel expense.
NOAA General Counsel	Prosecution of cases	\$55,000	1 part time paralegal aide
Sustainable Fisheries Division	Preparation of warning letters. Analysis and rulemaking for notices of standard PSC rates.		
Costs imposed on defendants	Legal expenses and time associated with defense		
Court costs	Administrative law judge; appeals could involve NOAA Administrator, federal district or circuit court judges. Opposing counsel, witnesses.		
Totals			
<p>Notes: These cost estimates are based on the development and prosecution of an average of six cases a year. The rationale behind these cost estimates is described in more detail above.</p>			

4.4 Tradeoffs associated with an FMP amendment

The FMP language authorizing the VIP is in Section 3.3 of this discussion paper. The FMP language does not require an incentive program. Both FMPs state that the Secretary of Commerce *may* implement an incentive program. Neither FMP constrains the Secretary to adopt the current program, if he does adopt a program. The language in the FMPs is general enough that the Secretary could adopt a vessel incentive program with different characteristics.

The Secretary could eliminate the regulations implementing the VIP without an FMP amendment. An FMP amendment to remove the VIP also would remove the flexibility the Council and Secretary have to reintroduce a new VIP program should that turn out to be desirable in future years. Moreover, the FMP amendment option would require a somewhat more complex rulemaking process. The potential benefit

from the FMP amendment option is that the FMP itself would be less complicated.¹³

4.5 Summary of tradeoffs

Table 8 summarizes the tradeoffs among the various alternatives.

¹³Other fishery regulations dependent on the FMP language have not been identified. While it is not believed to be likely that there are any, this can't be ruled out at this time.

Table 8. Preliminary summary of tradeoffs (all changes described relative to baseline)

	No action	Alternative notice schedules		Eliminate VIP alternatives	
		Annual	Rates in regulations	FMP amendment	Regulatory amendment
Prohibited species protection	No change in protection levels				
Groundfish target fisheries	Fishermen in yellowfin sole and rock sole fisheries in BSAI, and in deepwater and shallow water flatfish complexes in the GOA may be able to catch more fish. In the BSAI, the yellowfin and rock sole catch increases may be associated with offsetting decreases in pollock catches (the result will depend on Council decisions). Increases in yellowfin or rock sole production will be associated with increased costs. Cost increases will be caused by longer fishing time, and by increased costs associated with avoiding PSC. There may be increased concerns over the quality of observer data as fishermen increasingly pre-sort and pressure observers to misreport. Fewer closures of red king crab Zone 1.		No change		No change
Enforcement	Increased expenses (or reduced ability to perform other functions) by observer program, NOAA Enforcement office, NOAA General Counsel, NMFS Sustainable Fisheries Division, and legal system. This was incompletely monetized in the report. The partially monetized estimates ranged from \$305,000 to \$455,000/year.		No change		No change
Fishery management	Prepare two VIP standard rate notices a year through notice and comment rulemaking	One regulatory amendment and then one additional regulatory action annually to prepare notices of VIP rates.	One regulatory action to incorporate VIP standard rates in regulation	NMFS would no longer publish VIP rates. Action would require FMP and regulatory amendments. A new incentive program would also require FMP amendment in addition to APA rulemaking. FMP would be a somewhat less complex document.	NMFS would no longer publish VIP rates. Action would only require a regulatory amendment. A new incentive program would only require APA rulemaking - no FMP amendment.
Notes: To facilitate a comparison of the alternatives, each has been compared to a baseline of no program, no enforcement or other program activity, no notices of VIP rates, and no regulatory or FMP changes.					

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References

Auer, Susan (Senior Enforcement Attorney), Stephen Meyer (Special Agent-in-charge), Bill Karp (Task Leader, Observer Program Office), and Ron Berg (Chief, Fisheries Management Division). 1995. Memo to Steven Pennoyer, director, Alaska Region, on Vessel Incentive Program Recommendations. May 19, 1995.

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Appendix: NMFS PSC Standard Rate Analysis Presented to the Council in October 2001

paper begun by bmuse 7-11-03
revised Salveson 9-7-03
revised by bmuse 9-29-03

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1507-13-1-02
UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

September 28, 2001

Mr. David Benton
Chairman, North Pacific Fishery
Management Council
605 W. 4th Avenue, Suite 306
Anchorage, Alaska 99501-2252

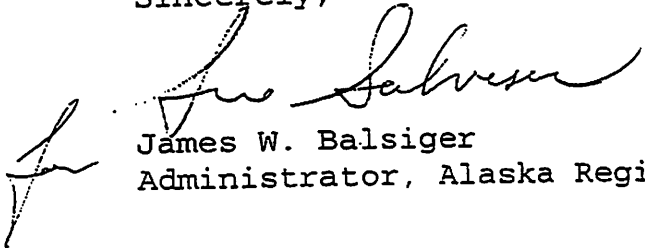
Dear Mr. Benton:

Bycatch rate standards for trawl fisheries under the Pacific halibut and red king crab vessel incentive program (VIP) during the first half of 2002 are scheduled to be published in the Federal Register by January 1, 2002. A summary of 1997 - 2001 observer data on fishery bycatch rates is listed in Table 1 for review by the Council. The halibut bycatch rates for the first three quarters of 2001 have been updated. This information is based on weekly assignments of vessels to a VIP target fishery based on weekly catch and reporting area as determined in the NMFS Blend Database.

We also are providing the Council a series of graphs that show the distribution of bycatch rates in the incentive program fisheries for two periods, the first and second quarters of 2001 and from 1999 through the first and second quarters of 2001. Please note that the bycatch rates portrayed by the graphs are calculated from observer data and are targeted based on haul by haul information. The statistic 'vessel months' noted in the graphs indicates bycatch rates aggregated by vessel by month for fisheries in the incentive program. The rates were then sorted by rate into the histograms without regard to which month they were derived from.

The bycatch rate standards have remained unchanged since 1995. We recommend the Council review the attached information to assess whether adjustments should be made. For purposes of consideration, NMFS staff recommends adjustments to the bycatch rate standards as shown in Table A-1 of the attachment and the accompanying justification for the adjusted rates.

Sincerely,


James W. Balsiger
Administrator, Alaska Region

Attachments



Table 1 – 1997 - 2001 (through September 8, 2001) observed bycatch rates, by quarter, of halibut and red king crab in the fishery categories included in the vessel incentive program. Also listed are the bycatch rate standards established since 1995.

Halibut Bycatch (Kilograms Halibut/metric ton Allocated Groundfish Catch)						
<u>Fishery and quarter</u>	<u>Bycatch Rate Standards</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
BSAI Midwater Pollock						
QT 1	1	0.1	0.02	0.15	0.05	0.13
QT 2	1	0.4	0.00	-	0.15	0.15
QT 3	1	0.1	0.33	0.06	0.11	0.13
QT 4	1	0.1	0.25	0.04	0.13	
BSAI Bottom Pollock						
QT 1	7.5	1.4	9.09	1.29	0.16	0.89
QT 2	5	0.0	0.01	-	4.50	1.89
QT 3	5	1.4	6.70	3.87	0.68	2.72
QT 4	5	0.4	1.47	0.13	1.95	
BSAI Yellowfin sole						
QT 1	5	6.5	9.65	4.21	6.21	19.74
QT 2	5	5.1	6.48	7.30	3.96	18.54
QT 3	5	2.6	7.30	18.59	12.80	9.23
QT 4	5	4.1	13.71	24.26	11.41	
BSAI Other Trawl Fisheries						
QT 1	30	8.9	12.05	14.54	8.19	11.02
QT 2	30	10.3	13.98	24.83	21.08	23.79
QT 3	30	21.2	11.60	6.12	9.79	13.38
QT 4	30	3.1	11.54	8.71	4.57	
GOA Midwater Pollock						
QT 1	1	0.0	0.18	0.31	0.04	0.36
QT 2	1	0.1	0.14	0.23	0.04	0.17
QT 3	1	0.1	0.04	0.12	1.91	0.01
QT 4	1		0.03	0.03	0.56	
GOA Other Trawl Fisheries						
QT 1	40	0.18	26.23	32.48	18.43	10.89
QT 2	40	62.4	58.88	58.87	54.44	56.84
QT 3	40	26.0	37.98	18.14	23.07	28.43
QT 4	40	47.9	58.20	69.04	45.87	
Zone 1 Red King Crab Bycatch Rates						
BSAI Yellowfin sole						
QT 1	2.5	0.1	0.01	0.09	0.23	0.57
QT 2	2.5	0.1	0.03	0.01	0.45	0.08
QT 3	2.5		0.43	1.08	0.21	0.02
QT 4	2.5		0.15	0.25	0.24	
BSAI Other Trawl Fisheries						
QT 1	2.5	0.1	0.04	1.38	0.22	0.09
QT 2	2.5	0.0	0.06	0.20	0.32	0.00
QT 3	2.5	0.0	0.25	0.00	0.00	0.08
QT 4	2.5	0.0	0.02	0.00	0.00	

ATTACHMENT 1

Table A-1. NMFS Staff Recommendations for Adjusted Bycatch Rate Standards

<u>Fishery and Quarter</u>	<u>Bycatch Rate Standard Since 1995</u>	<u>Recommended Standard For the first half of 2002</u>
<u>Halibut rates in kilograms per metric ton</u>		
BSAI		
Mid Water Pollock		
QTR 1	1.0	0.5
QTR 2	1.0	0.5
Bottom Pollock		
QTR 1	7.5	0.5
QTR 2	5.0	0.5
Yellowfin Sole		
QTR 1	5.0	15.0
QTR 2	5.0	15.0
Other Trawl Fisheries		
QTR 1	30.0	30.0
QTR 2	30.0	30.0
GOA		
Mid Water Pollock		
QTR 1	1.0	0.5
QTR 2	1.0	0.5
Other Trawl Fisheries		
QTR 1	40.0	40.0
QTR 2	40.0	40.0
BSAI Zone 1 Red King Crab in animals per metric ton		
Yellowfin Sole		
QTR 1	2.5	1.0
QTR 2	2.5	1.0
Other Trawl Fisheries		
QTR 1	2.5	1.0
QTR 2	2.5	1.0

These recommendations are based on the following rationale:

BSAI and GOA Midwater pollock fisheries: Bycatch rates in the midwater pollock fishery consistently have been below 0.5 kg/mt (Table 1). Rates since 1999 have averaged about 0.08 kg/mt in the BSAI and 0.22 kg/mt in the GOA. The distribution of the rates show that 99% and 90% of the BSAI and GOA bycatch rates, respectively, fall below 0.5 kg/mt.

BSAI Bottom pollock fishery: Since 1999 the use of non-pelagic trawl gear has been prohibited in the BSAI pollock fishery. Groundfish are assigned to the bottom pollock target if the majority of the catch is pollock, but that pollock comprises less than 95% of the catch. Since 1999, the average rates in the 'bottom pollock' target have reflected the change in allowable trawl gear as no single quarter has exceeded 5.0 kg/mt (Table 1). The distribution of the rates show that 65% of the bycatch rates are at or below 5 kg/mt. In consideration of the change in allowable gear, NMFS recommends that the Council consider a future amendment to the VIP program so that a single pollock target fishery is established and a bycatch rate be specified to encourage off the bottom activity.

BSAI Yellowfin sole: Average quarterly bycatch rates in the yellowfin sole target have consistently been above the 5.0 kg/mt standard since 1998 (Table 1); the distribution of the halibut bycatch rates show that 73% of the rates are at or below 15 kg/mt. Explanations of relatively higher rates since 1998 might include changes in the physical or biological conditions driving the rate of bycatch in the yellowfin sole fishery since 1995 when the rate was initially established. Another explanation might be that with the decline of Pacific cod, halibut mortality historically assigned to the trawl Pacific cod target has not been used by that fishery and instead has been made available to the flatfish fisheries during the second half of the year. The availability of 'extra' halibut mortality could allow vessels catching flatfish to be less concerned about avoiding halibut bycatch. A third explanation might be that vessels are using larger mesh gear to reduce discard and comply with increased retention/utilization standards for pollock and Pacific cod. Thus, although the amount of groundfish catch may be decreased in a haul, the amount of halibut retained in the net may remain the same and result in an increase in the bycatch rate of halibut.

If the first or third condition is prevailing then it might make sense to increase the bycatch rate standard. If the third condition persists, then it may make sense to leave the standard unchanged and expect the fishery to avoid halibut bycatch to meet it. Unless

further direction is provided by the Council, NMFS staff recommends that the halibut bycatch rate for the yellowfin sole fishery be increased to 15 kg/mt until information is made available to further discern the reasons why the rates have increased in this fishery.

BSAI and GOA "Other trawl fisheries": We recommend no change to the halibut bycatch rate standards for the BSAI and GOA "other trawl fisheries" given that the existing standards seem reasonable compared to observed rates.

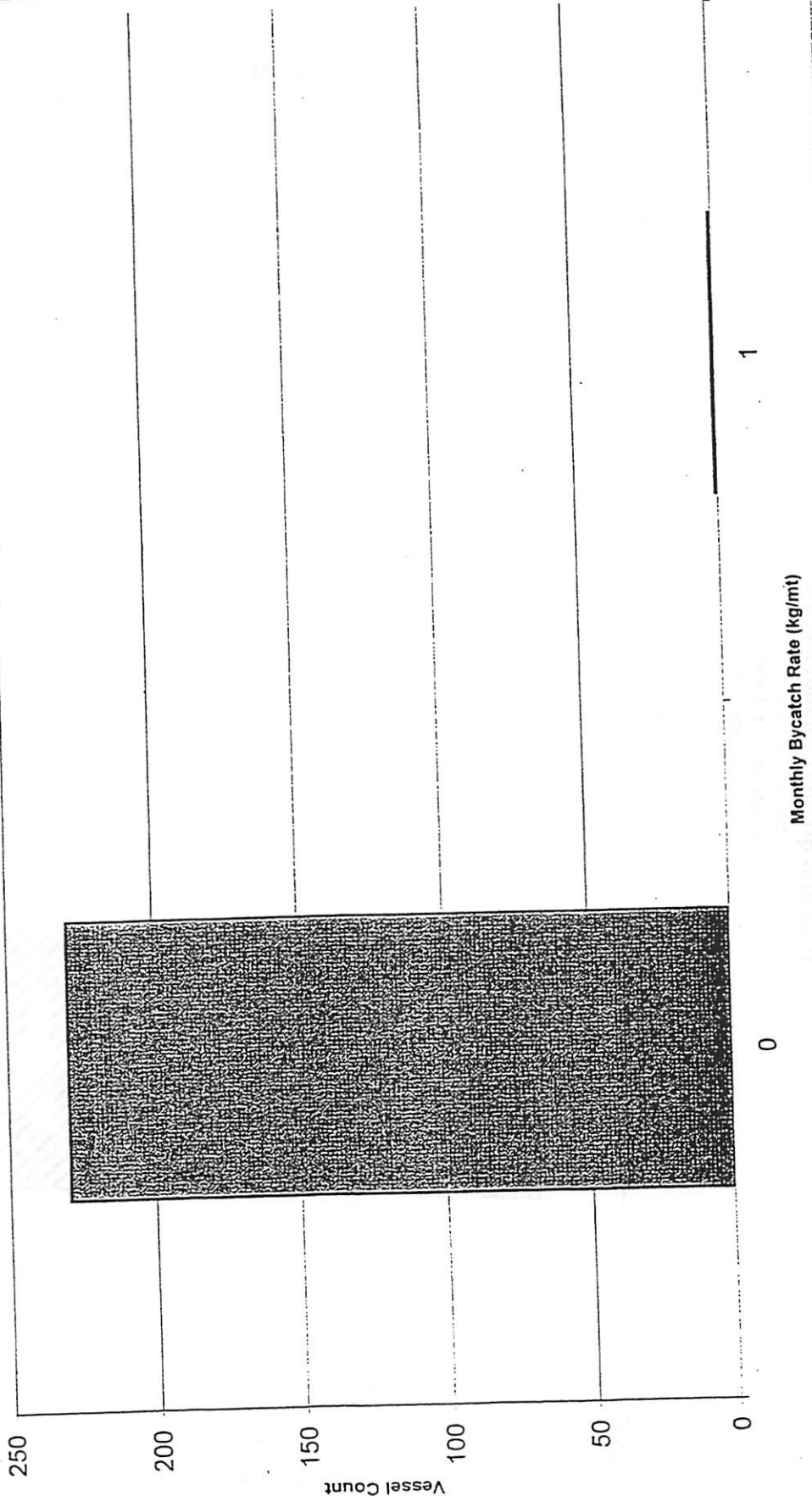
Red king crab: Last, we recommend that the Zone 1 red king crab rates for the BSAI yellowfin sole and other trawl fisheries be reduced to 1 crab per mt ground fish. This standard would account for 82 percent and 92 percent, respectively, of the observed vessel month rates since 1999.

**BSA 'P' (mid water) Pollock Target 2001
1st & 2nd Quarters Halibut Bycatch**

bycatch std 1.0

mean 2001 bycatch rates: 0.13 1st qtr; 0.15 2nd qtr

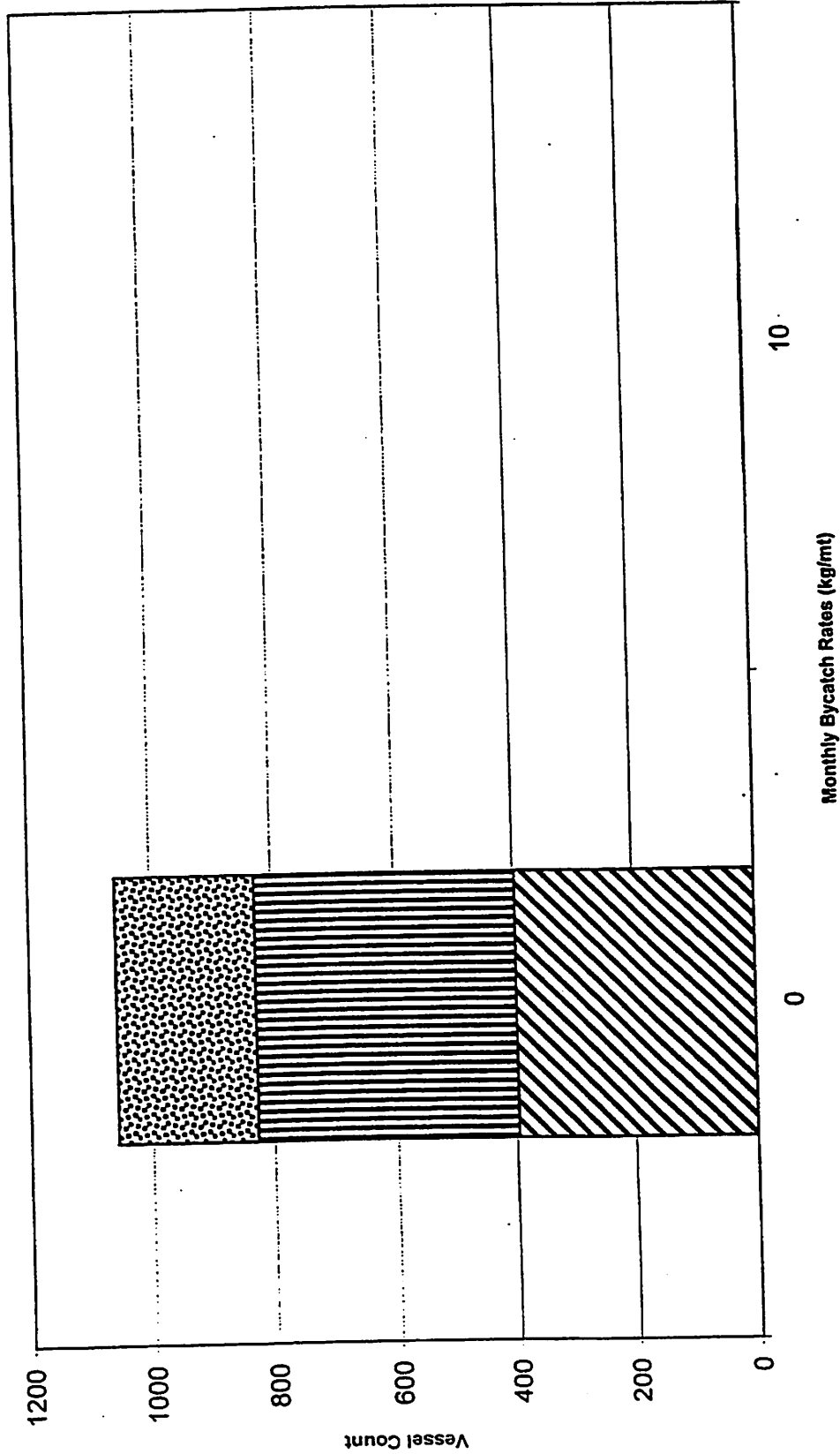
total vessel months: 230



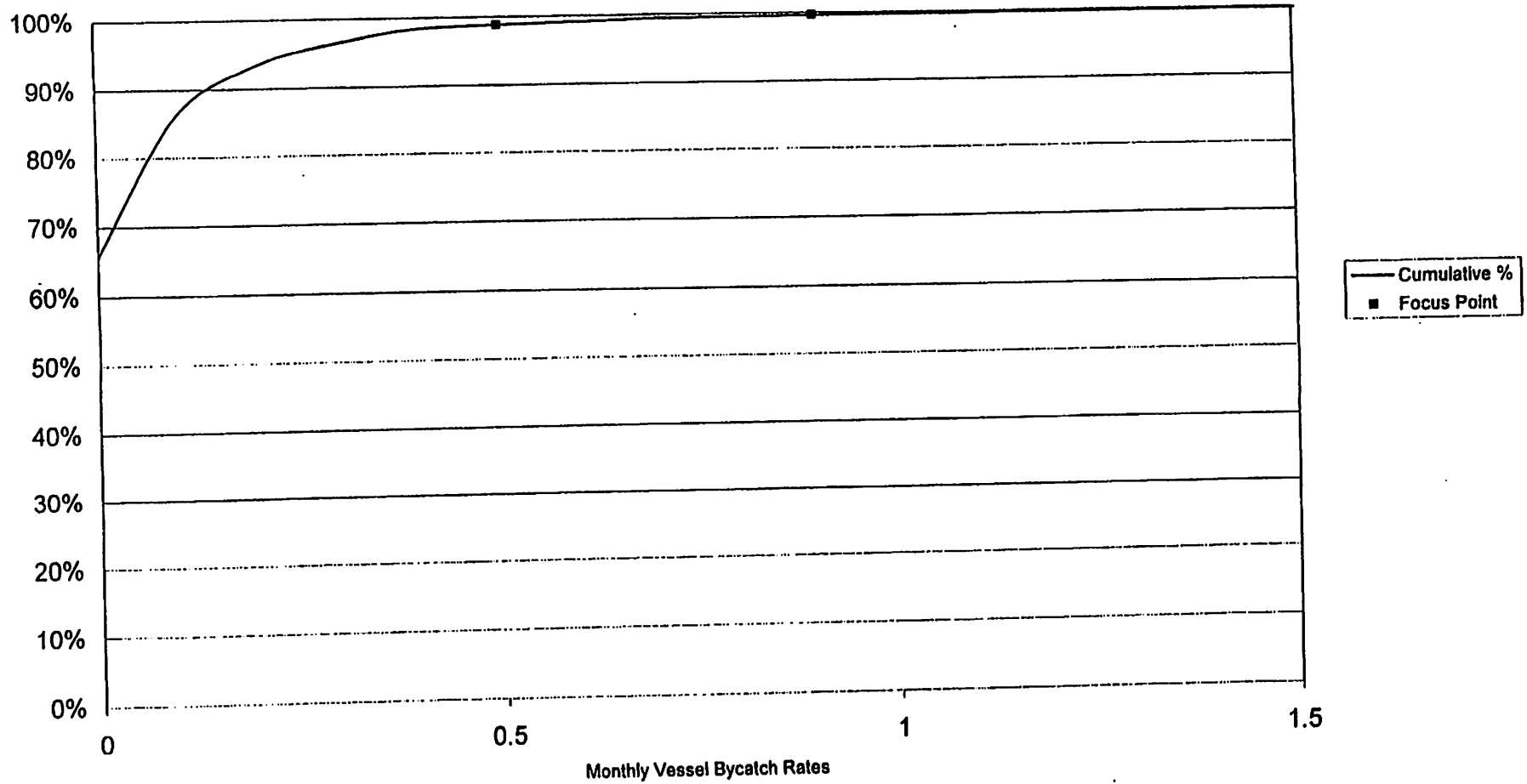
Monthly Bycatch Rate (kg/mt)

**BSA 'P' (mid water) Pollock Target
1999-2nd qtr 2001 Halibut Bycatch**

bycatch std = 1.0
total vessel months: 1,058
mean bycatch rate: 0.08



BSA Mid Water Pollock 1999-2nd Qtr 2001
Cumulative % of 'Vessel Month' Bycatch Rates
99.67% are 1.0 kg/mt or less
99 % are 0.5 kg/mt or less



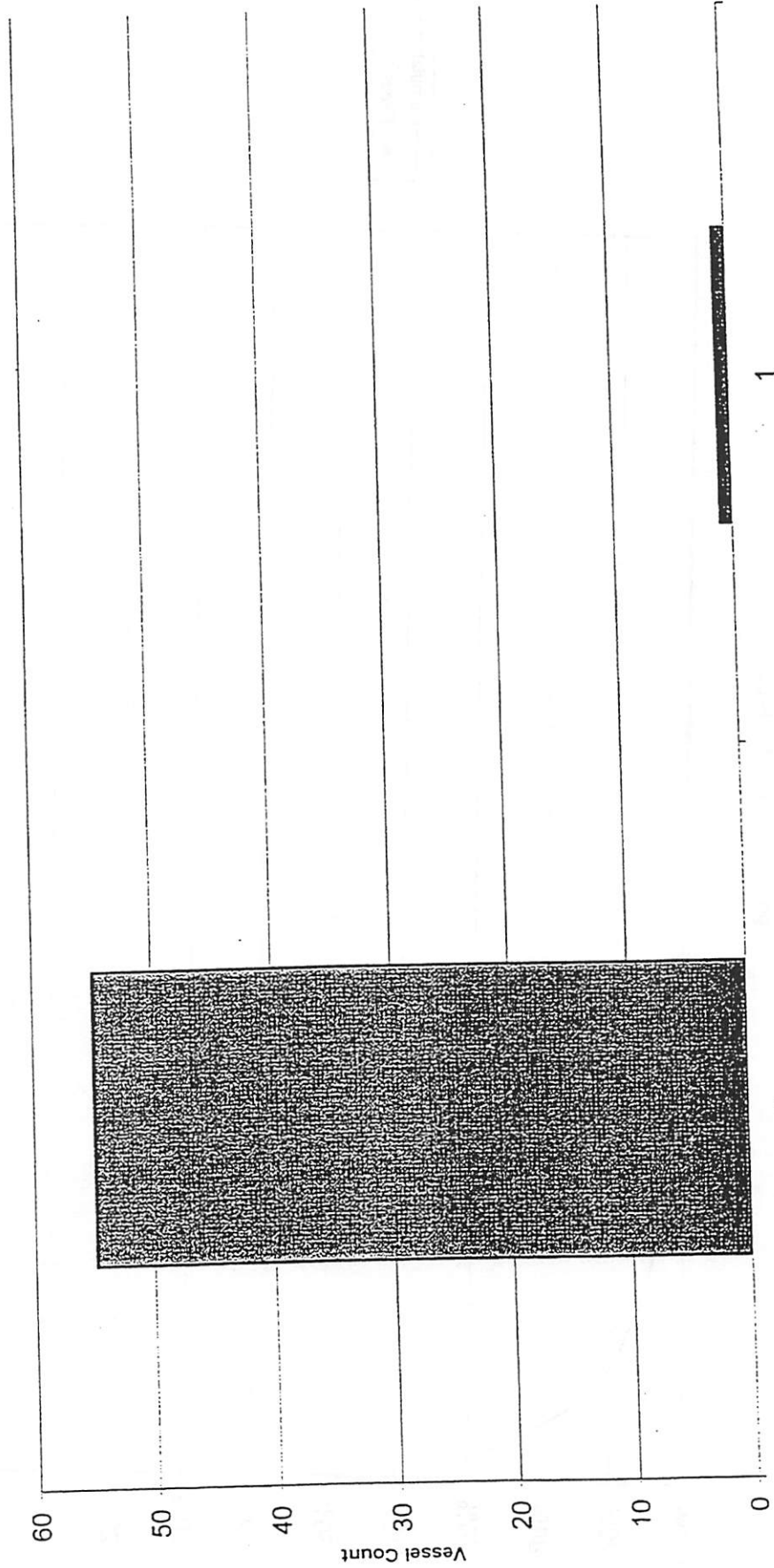
A-6

**GOA 'P' (mid water) Pollock Target 2001
1st & 2nd Quarters Halibut Bycatch**

bycatch std = 1.0

mean 2001 bycatch rate: 0.36 1st qtr; 0.17 2nd qtr

total vessel months: 55

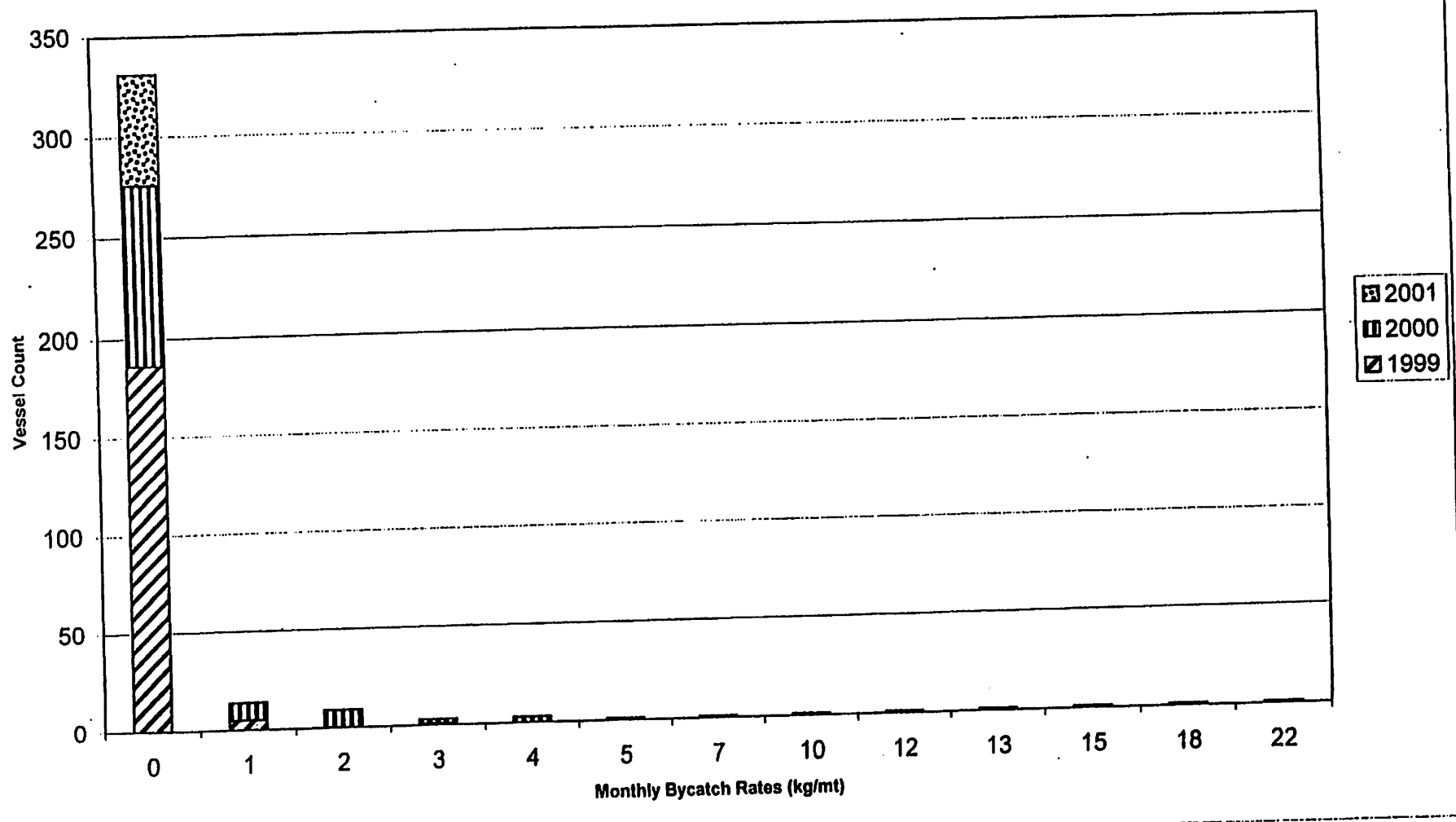


Monthly Bycatch Rate (kg/mt)

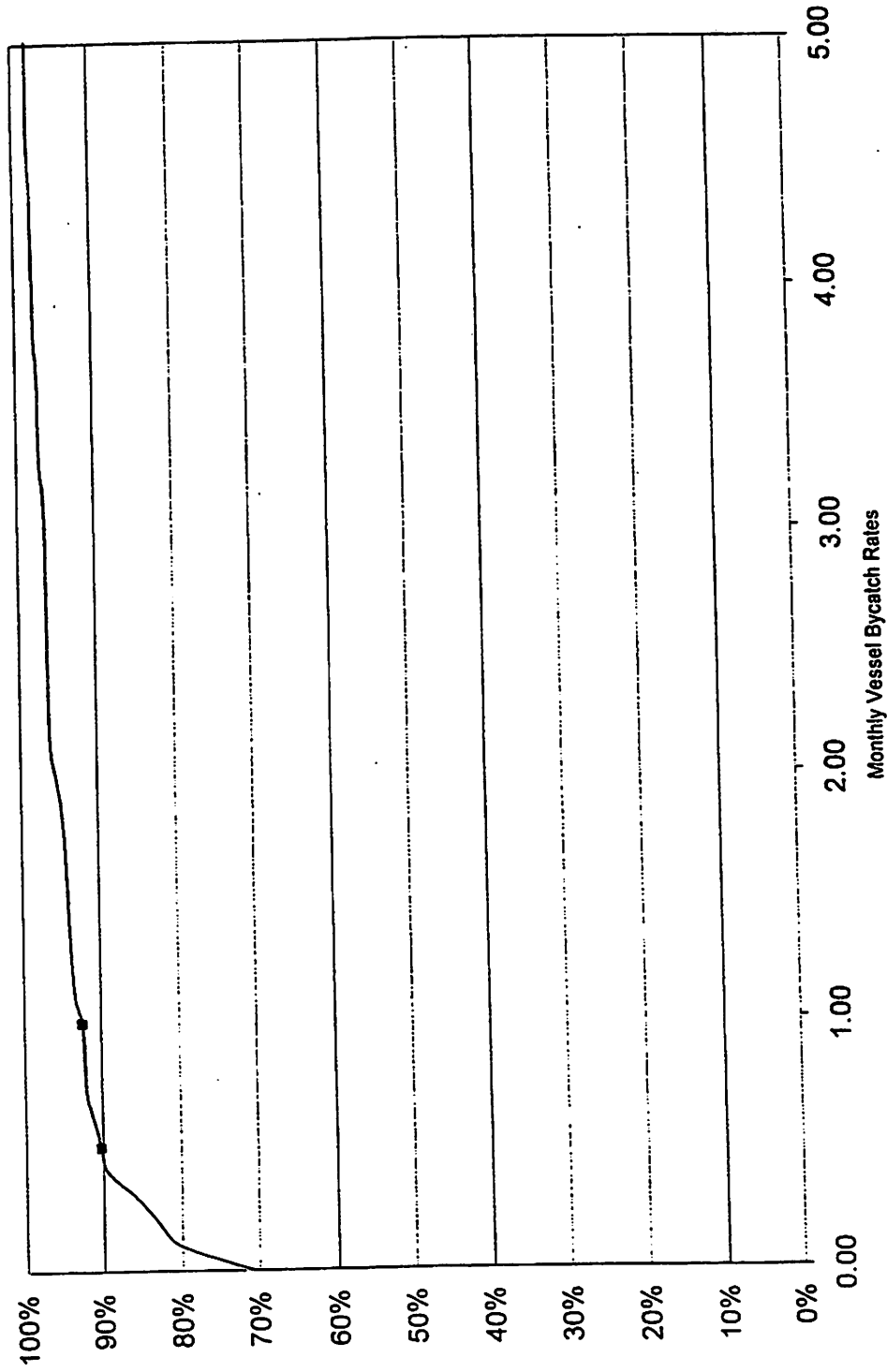
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**GOA 'P' (mid water) Pollock Target
1999-2nd qtr 2001 Halibut Bycatch**

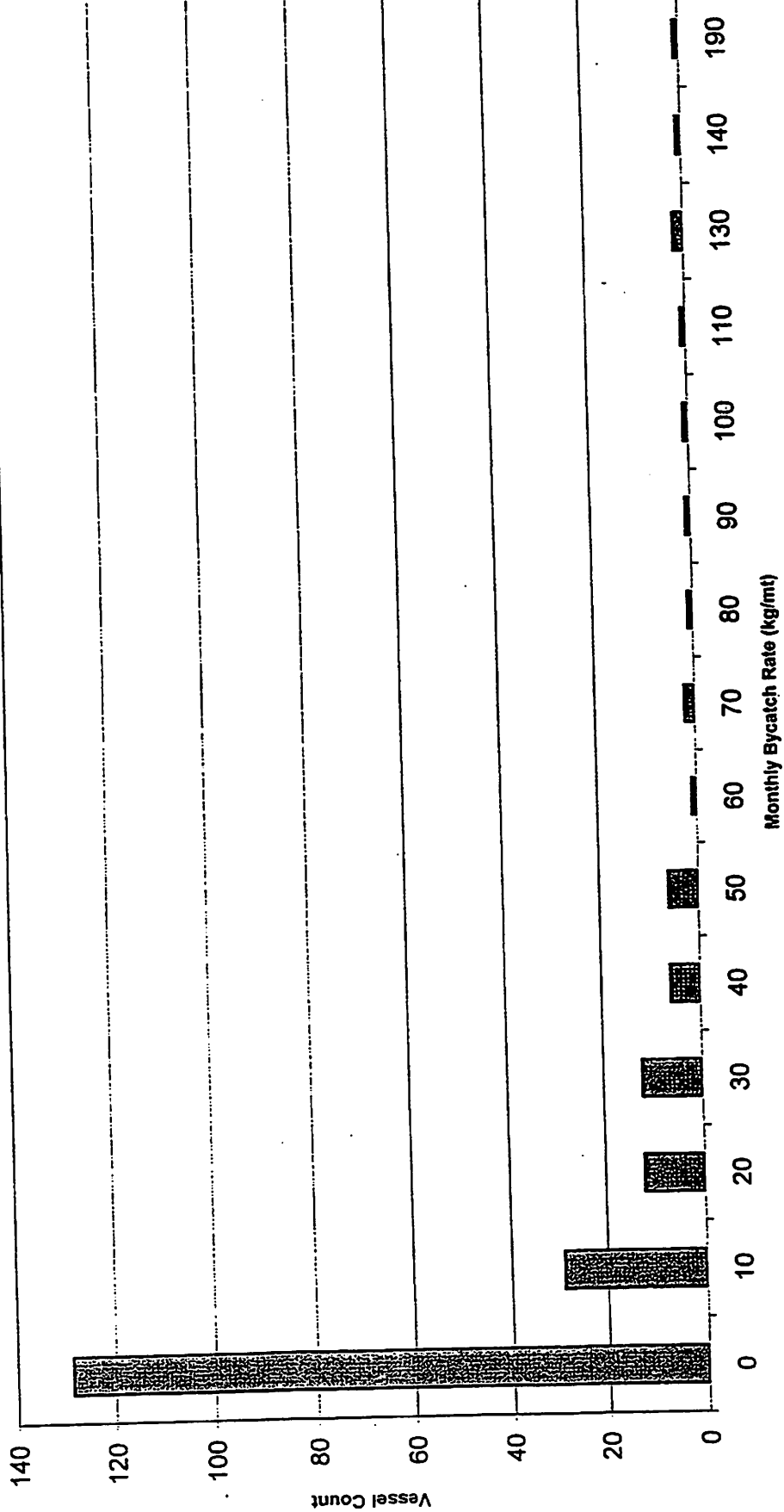
bycatch std = 1.0
total vessel months: 368
mean bycatch rate: 0.22



GOA Pollock 1999-2nd Qtr 2001
Cumulative % of 'Vessel Month' Bycatch Rates
90% of bycatch rates are at 0.5 kg/mt or less
92% are 1.0 kg/mt or less

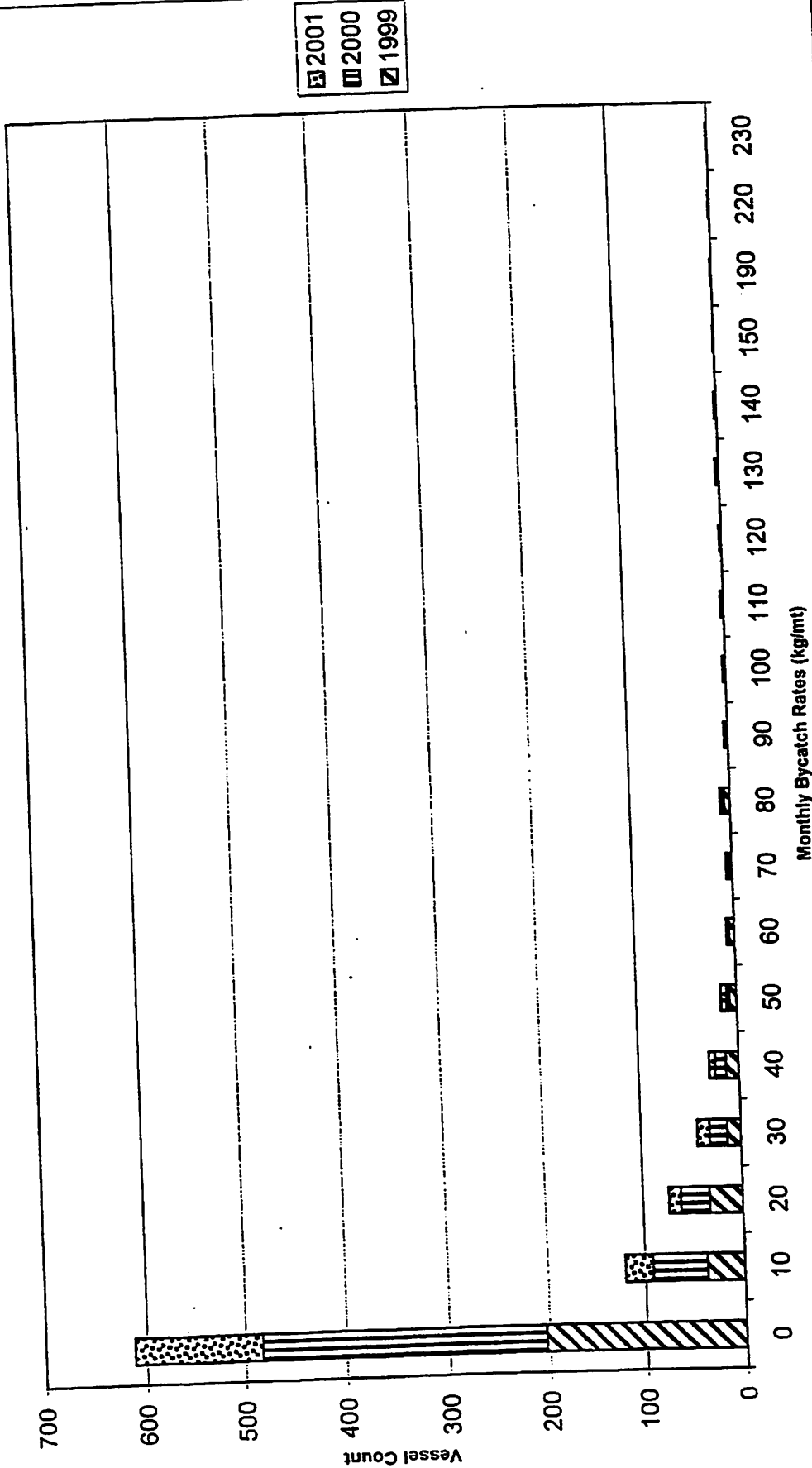


BSA 'B' Pollock Target 2001
1st & 2nd Quarters Halibut Bycatch
 bycatch std = 7.5 1st; 5.0 2nd
 mean 2001 bycatch rates: 0.89 1st; 1.89 2nd
 total vessel months: 205



**BSA 'B' Pollock Target
1999-2nd qtr 2001 Halibut Bycatch**

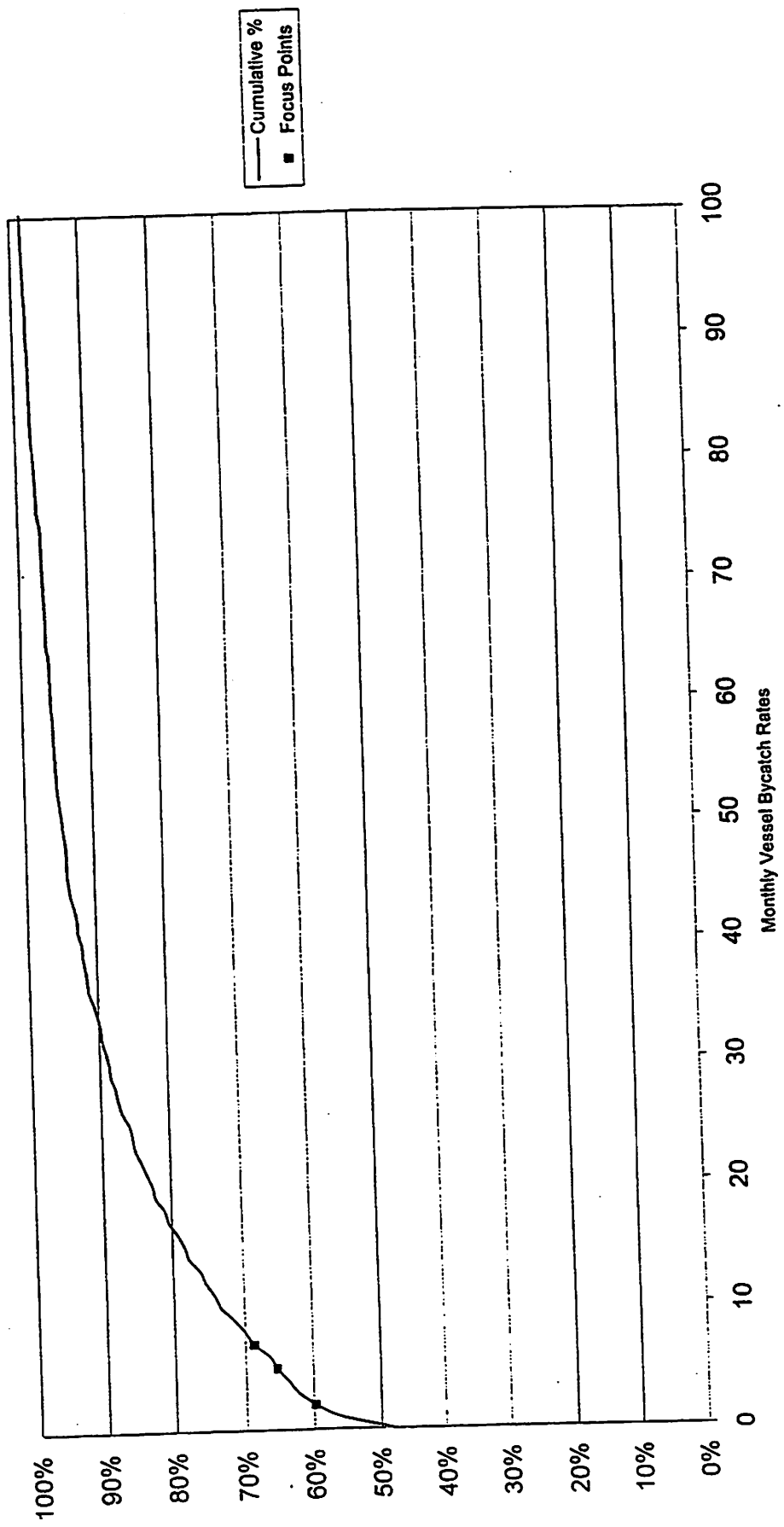
bycatch std = 7.5 1st; 5.0 2nd
total vessel months: 942
mean bycatch rate: 6.68



A-11

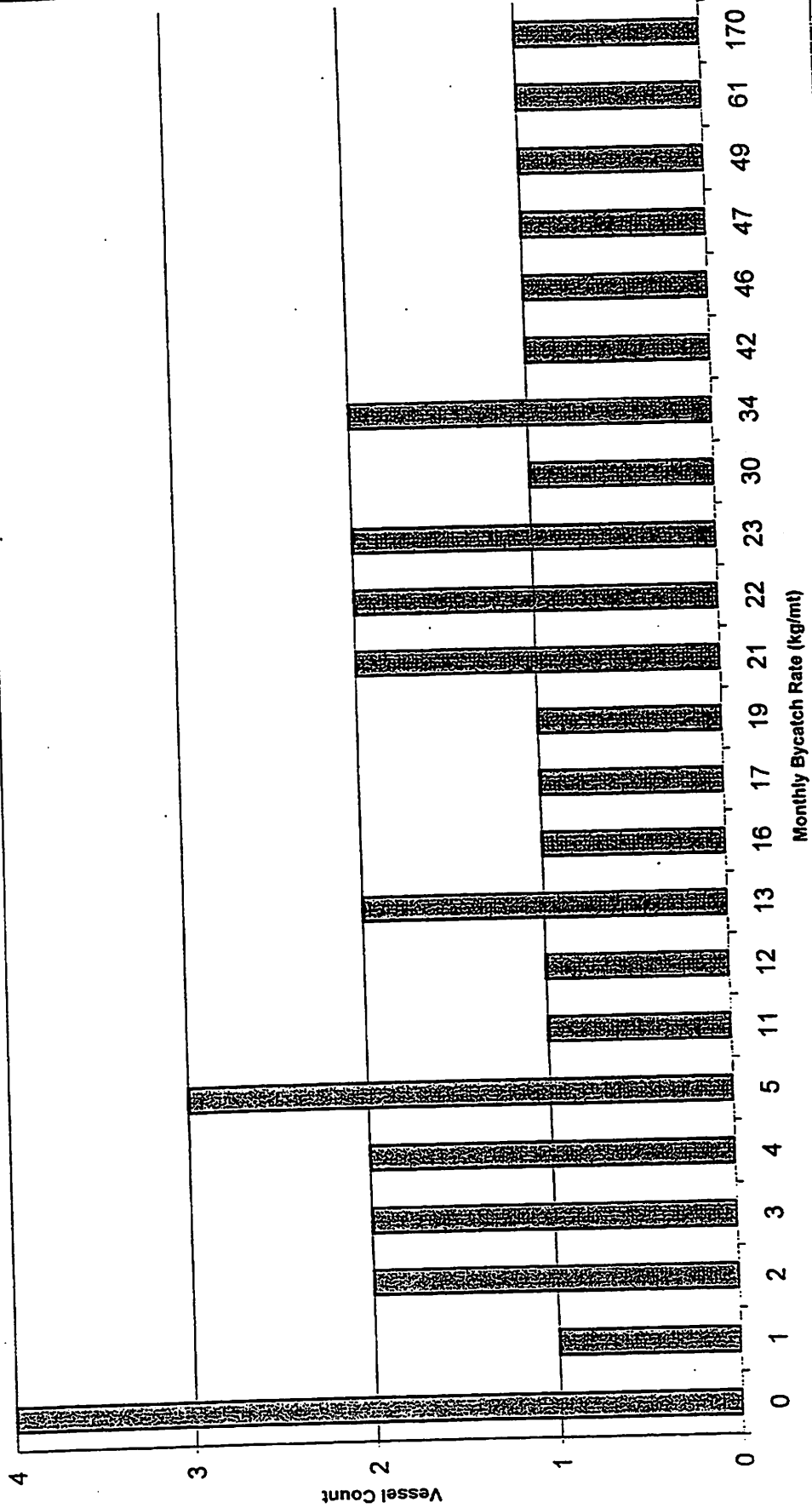
BSA 'B' Pollock 1999-2nd Qtr 2001

Cumulative % of 'Vessel Month' Bycatch Rates
60% of bycatch rates are at 2 kg/mt or less
65% are at 5 kg/mt or less,
69% are at 7 kg/mt or less



**BSA Yellowfin Sole Target 2001
1st & 2nd Quarters Halibut Bycatch**

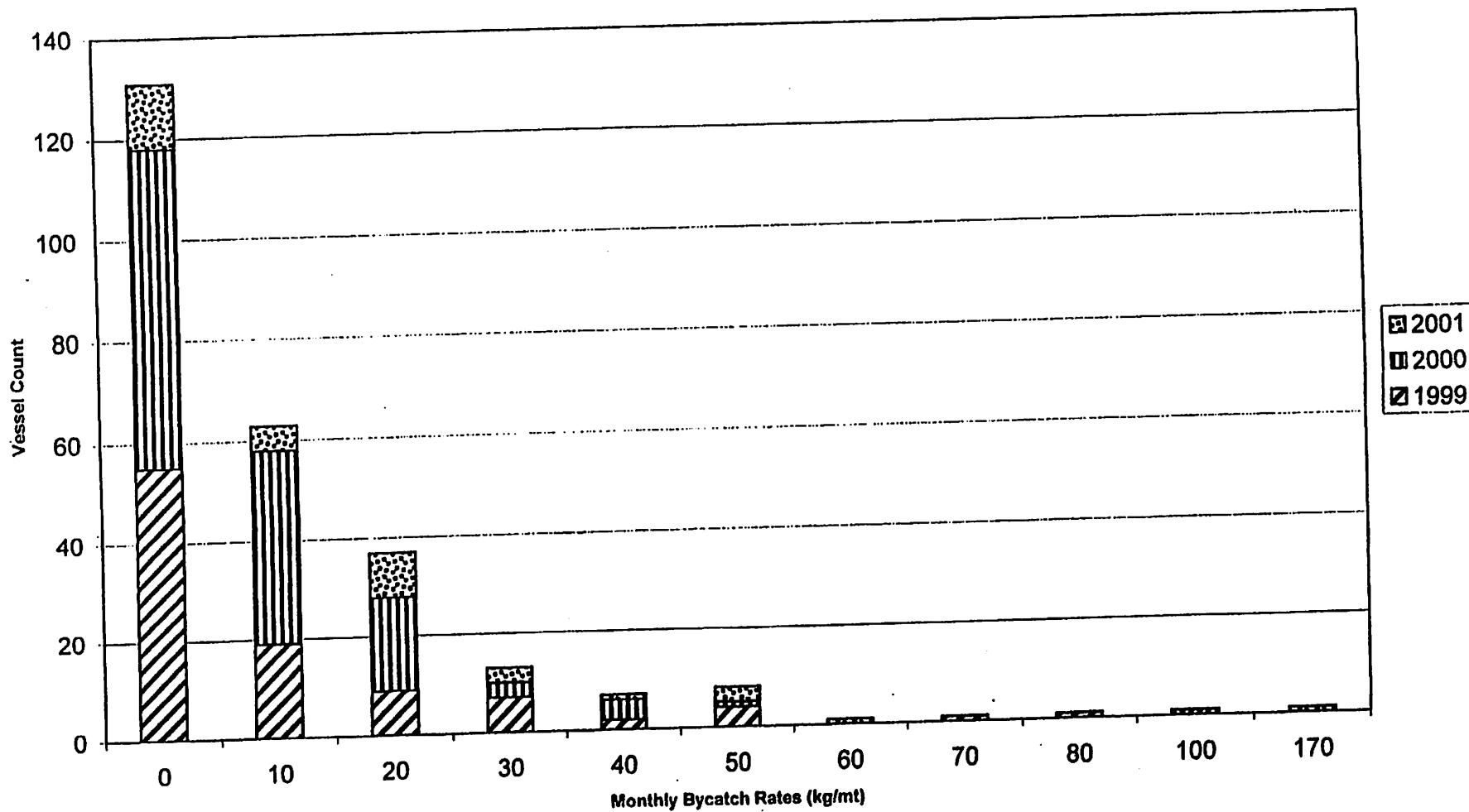
bycatch std = 5.0
 mean 2001 bycatch rates: 19.74 1st qtr; 18.54 2nd qtr
 total vessel months: 36



4-13

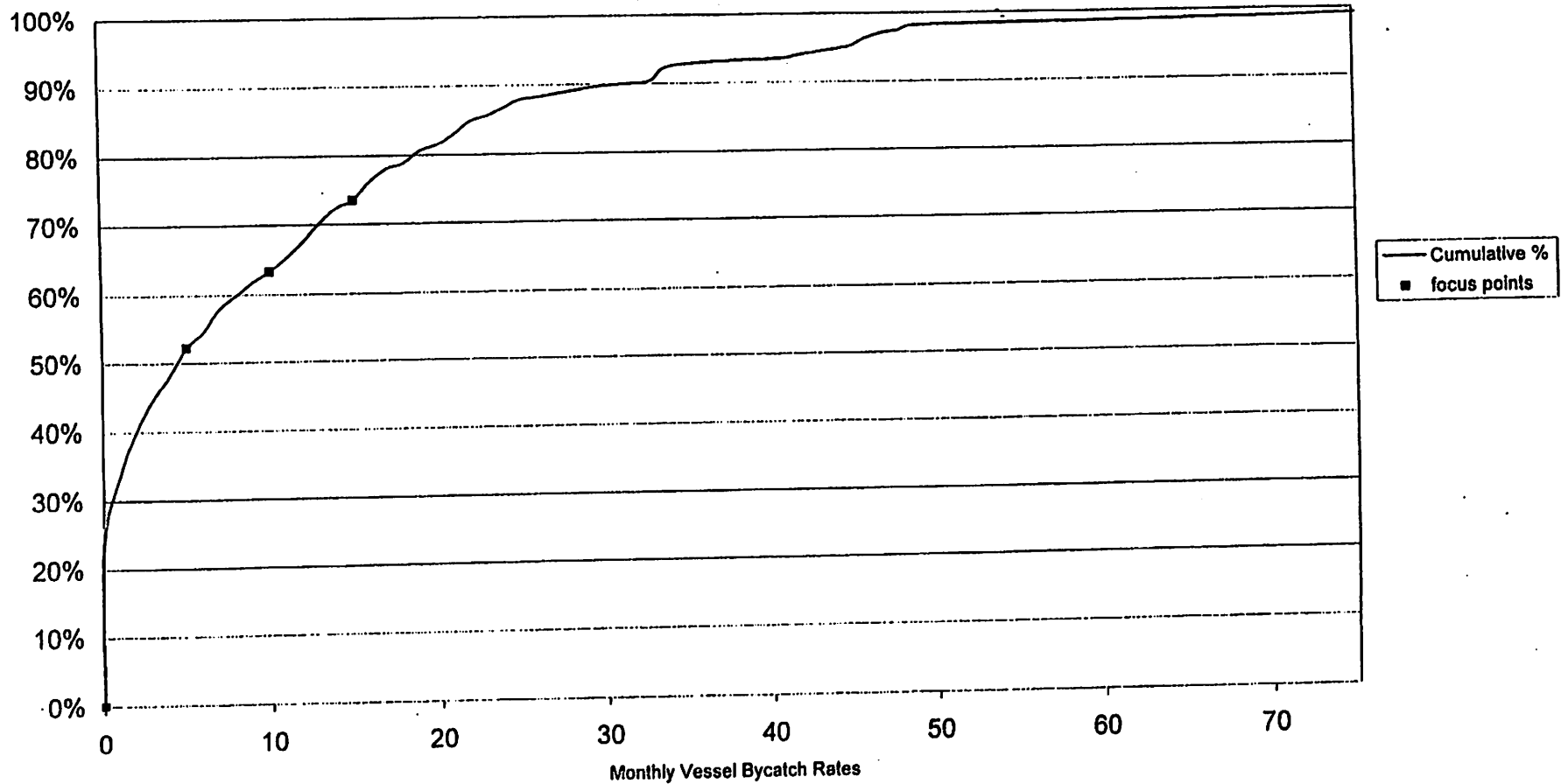
**BSA Yellowfin Sole Target
1999-2nd qtr 2001 Halibut Bycatch**

bycatch std = 5.0
total vessel months: 264
mean bycatch rate: 9.78



A-14

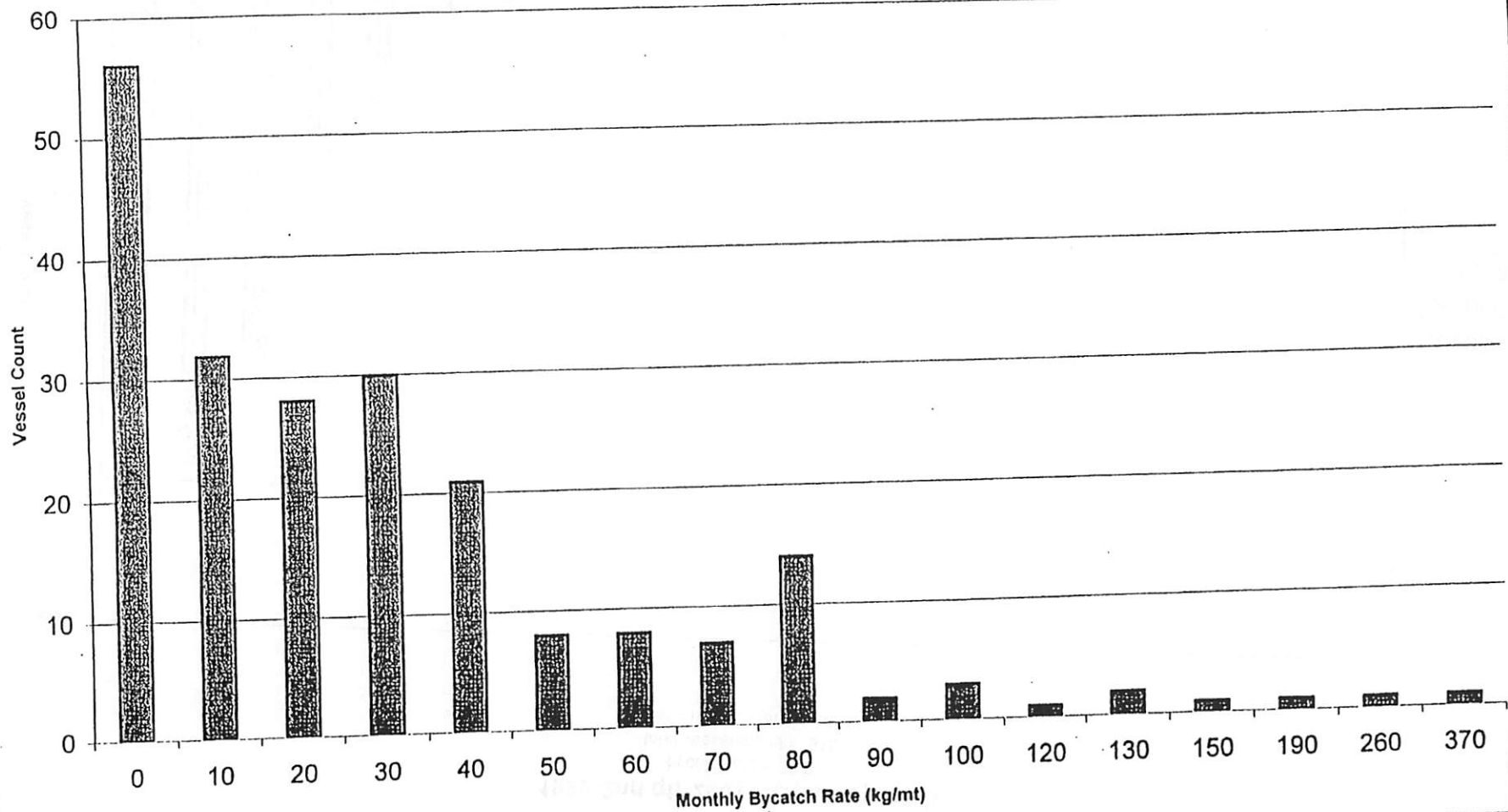
BSA Yellowfin Sole 1999-2nd Qtr 2001
Cumulative % of 'Vessel Month' Bycatch Rates
52% of bycatch rates are at 5 kg/mt or less
63% are at 10 kg/mt or less,
73% are at 15 kg/mt or less



DA-15

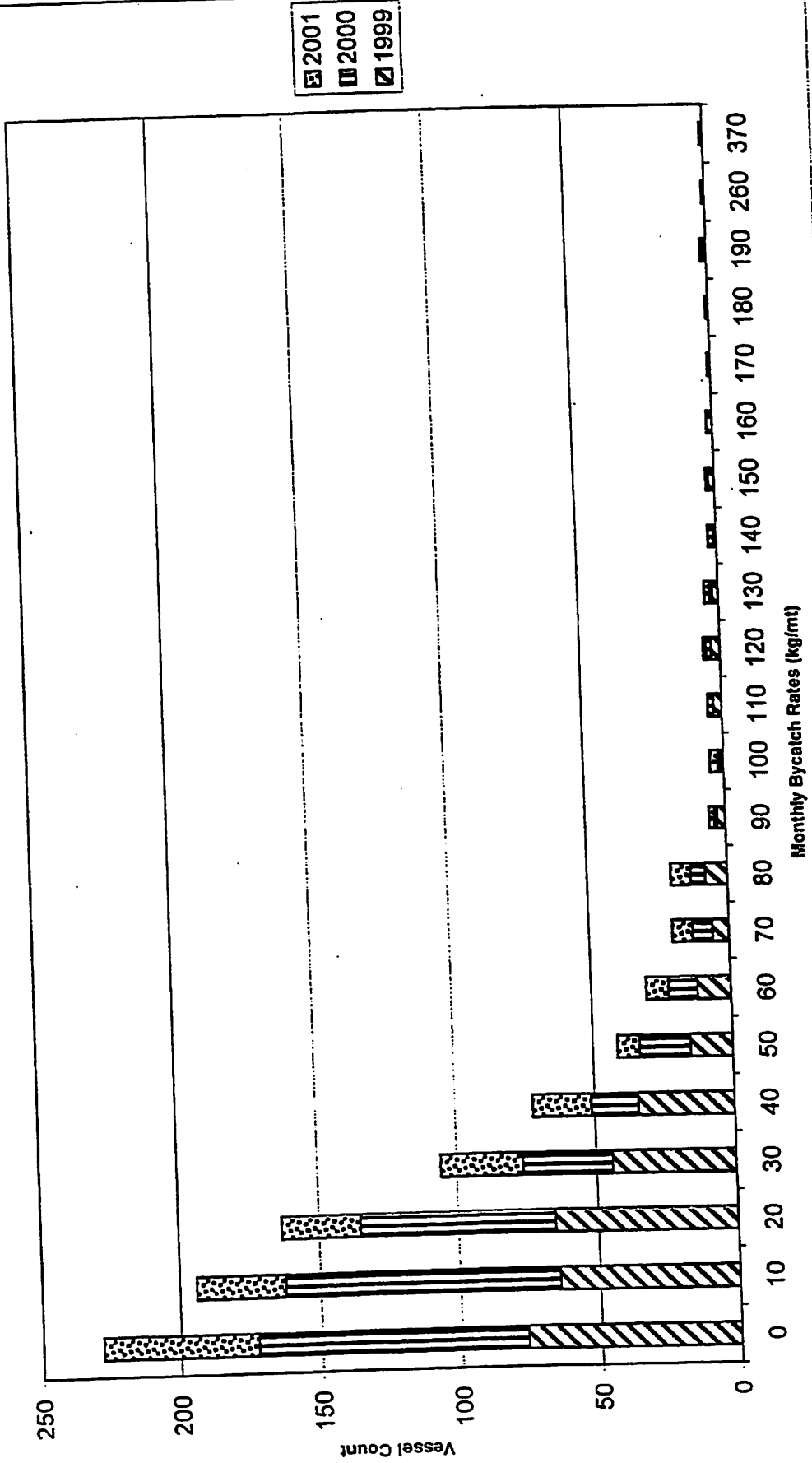
**BSA 'Other' Target 2001
1st & 2nd Quarters Halibut Bycatch**

bycatch std = 30.0
mean 2001 bycatch rate: 11.02 1st qtr; 23.79 2nd qtr
total vessel months: 209



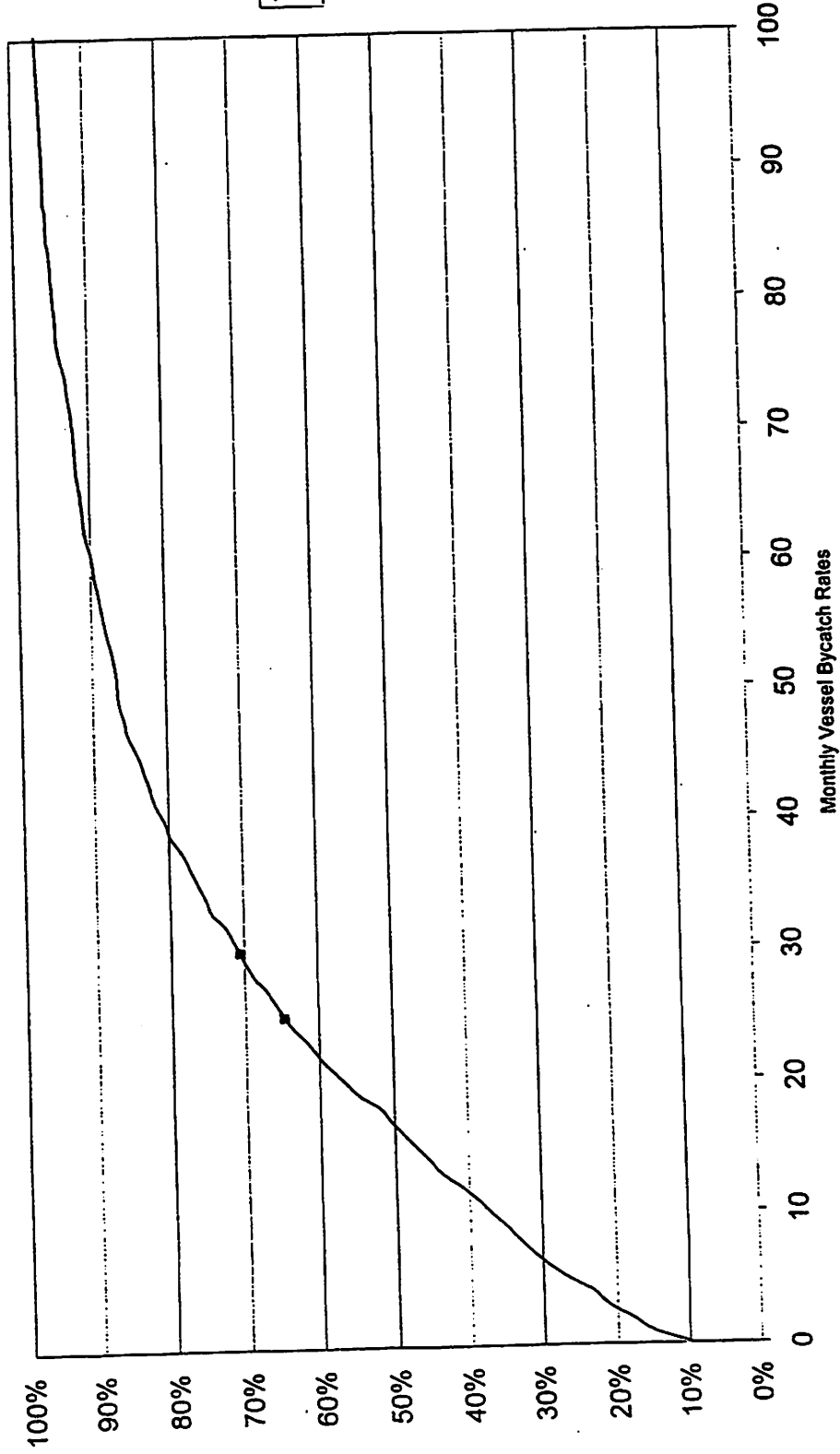
**BSA 'Other' Target
1999-2nd qtr 2001 Halibut Bycatch**

bycatch sid = 30.0
total vessel months: 915
mean bycatch rate: 14.65



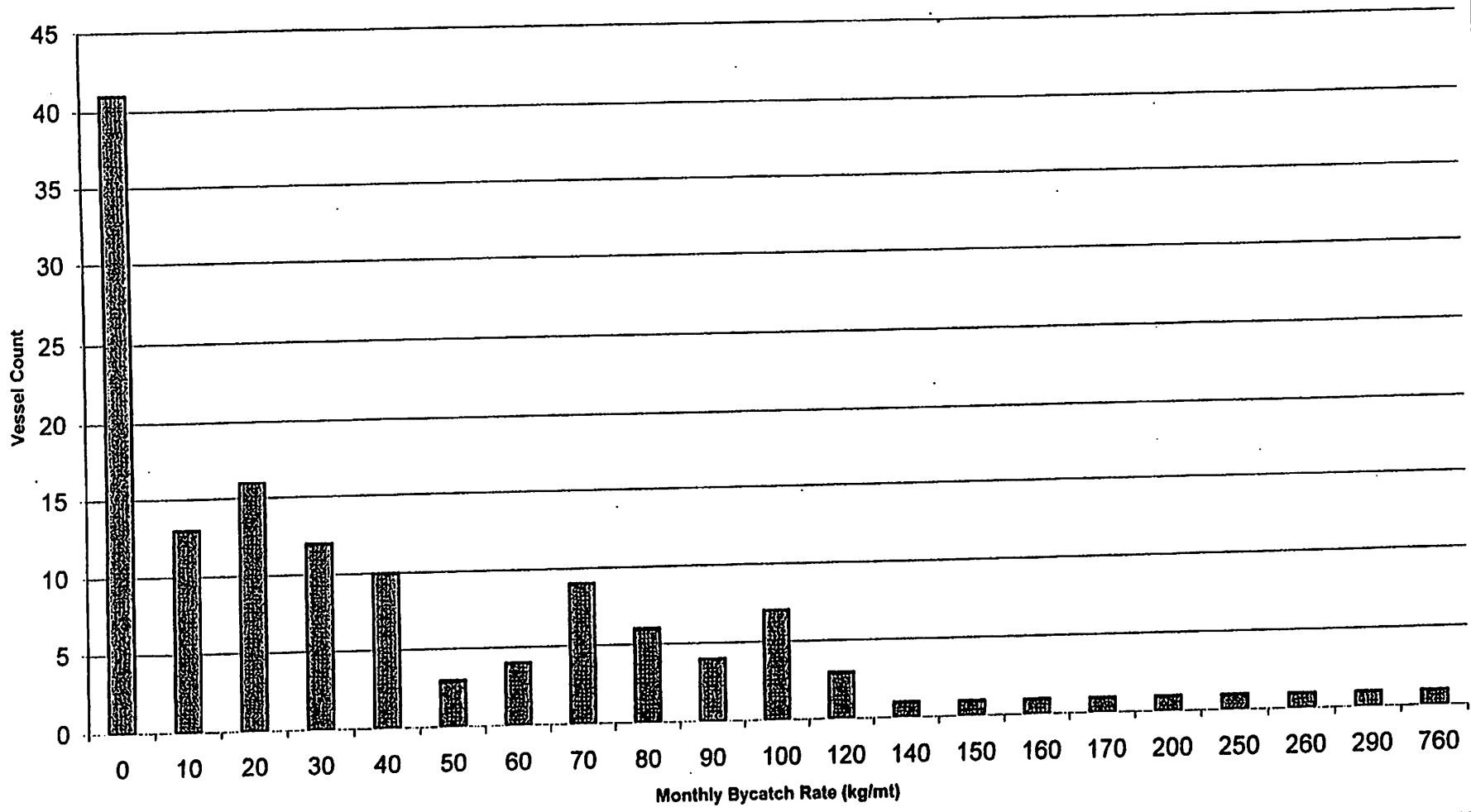
A-17

BSA Other 1999-2nd Qtr 2001
 Cumulative % of 'Vessel Month' Bycatch Rates
 65% of bycatch rates are at 25 kg/mt or less
 71% are at 30 kg/mt or less



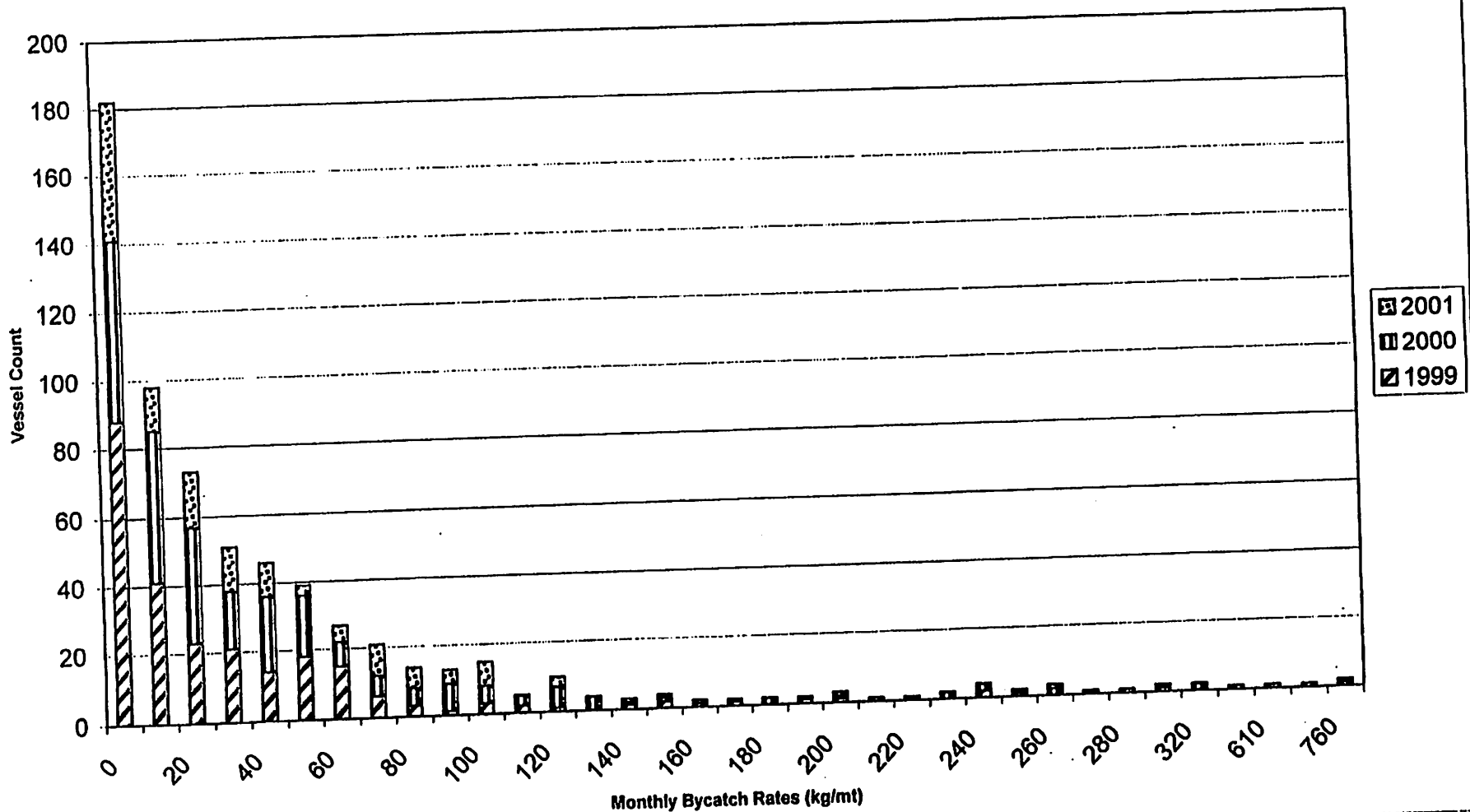
— Cumulative %
 ■ Focus Points

GOA 'Other' Target 2001
1st & 2nd Quarters Halibut Bycatch
 bycatch std = 40.0
 mean 2001 bycatch rates: 10.89 1st qtr; 56.84 2nd qtr
 total vessel months: 137



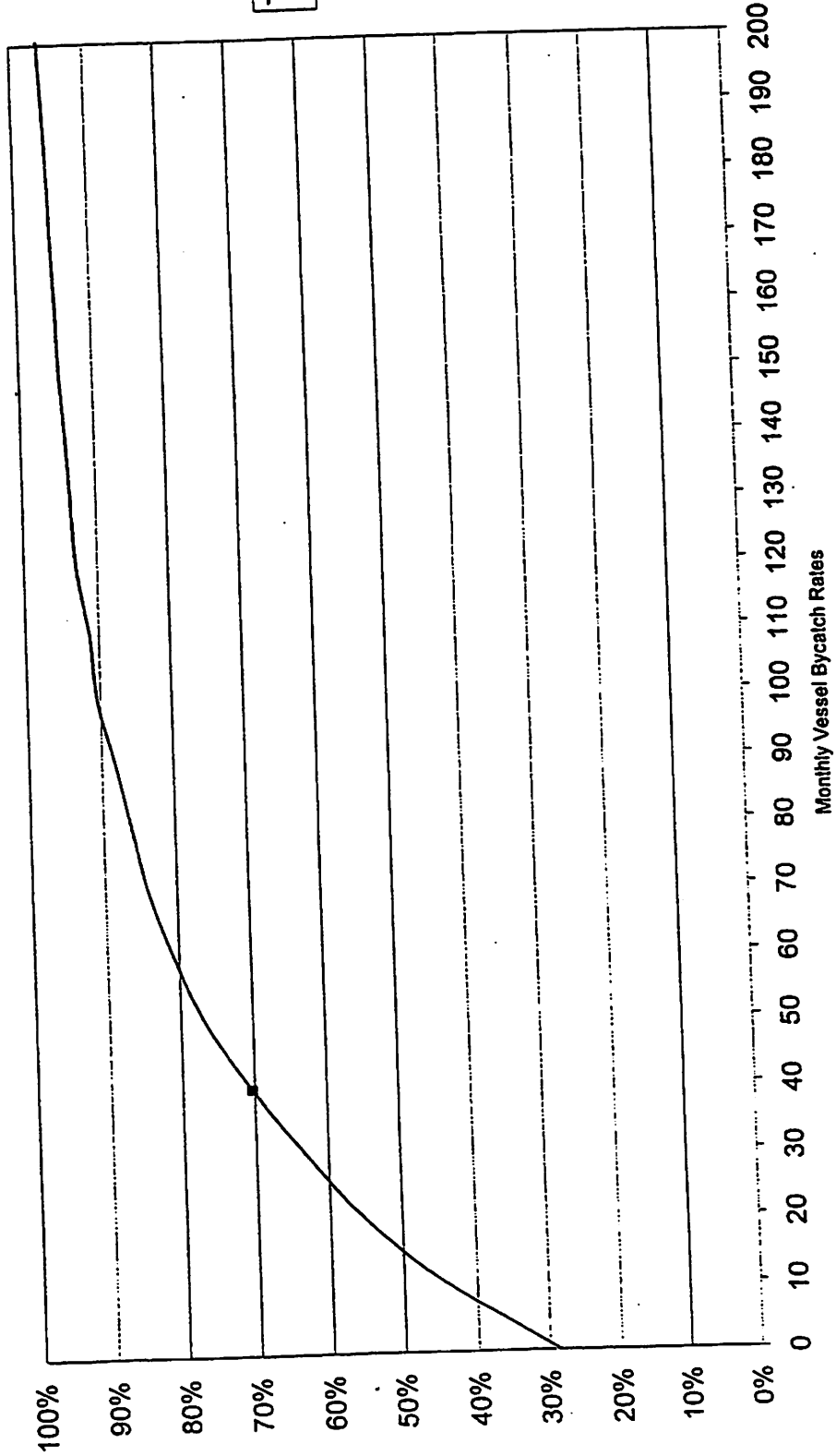
**GOA 'Other' Target
1999-2nd qtr 2001 Halibut Bycatch**

bycatch std = 40.0
total vessel months: 640
mean bycatch rate 37.92



A-20

GOA Other 1999-2nd Qtr 2001
 Cumulative % of 'Vessel Month' Bycatch Rates
 70% of bycatch rates are at 40 kg/mt or less



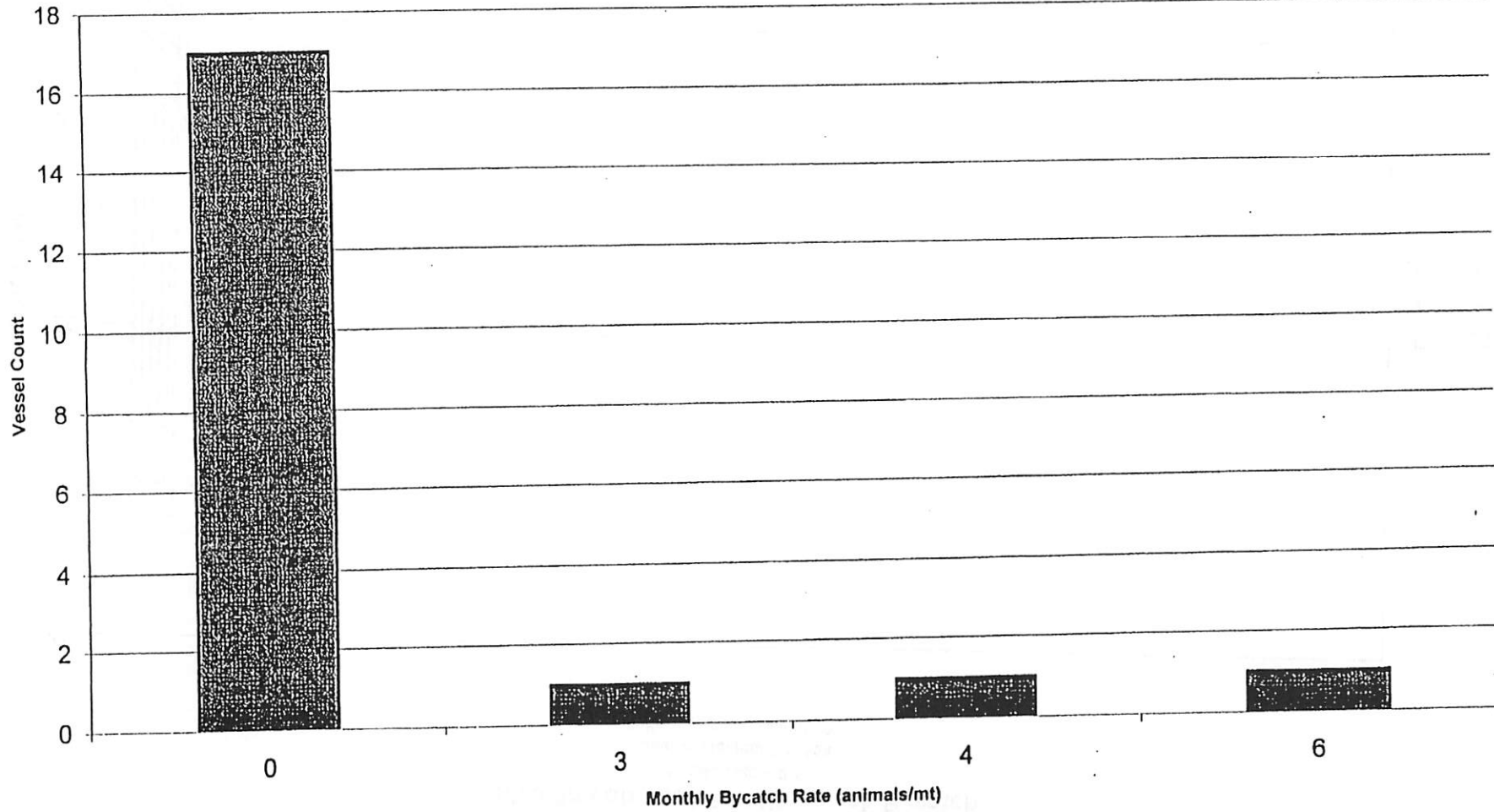
— Cumulative %
 ■ Focus Points

Handwritten mark: A-21



**BSA Zone 1 Yellowfin Sole Target 2001
1st & 2nd Quarters Red King Crab Bycatch**

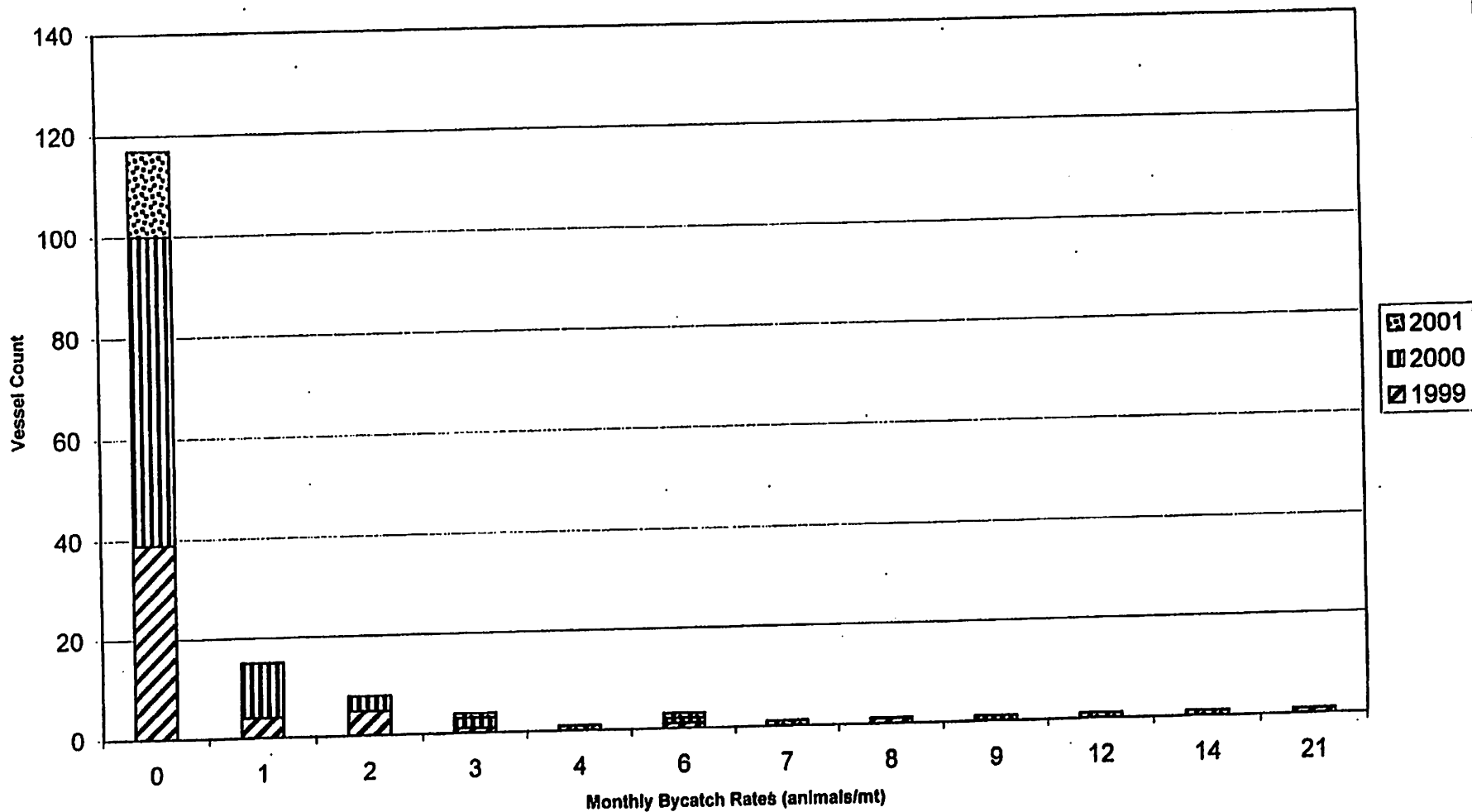
bycatch std = 2.5
mean 2001 bycatch rates: 0.57 1st qtr; 0.08 2nd qtr
total vessel months: 23



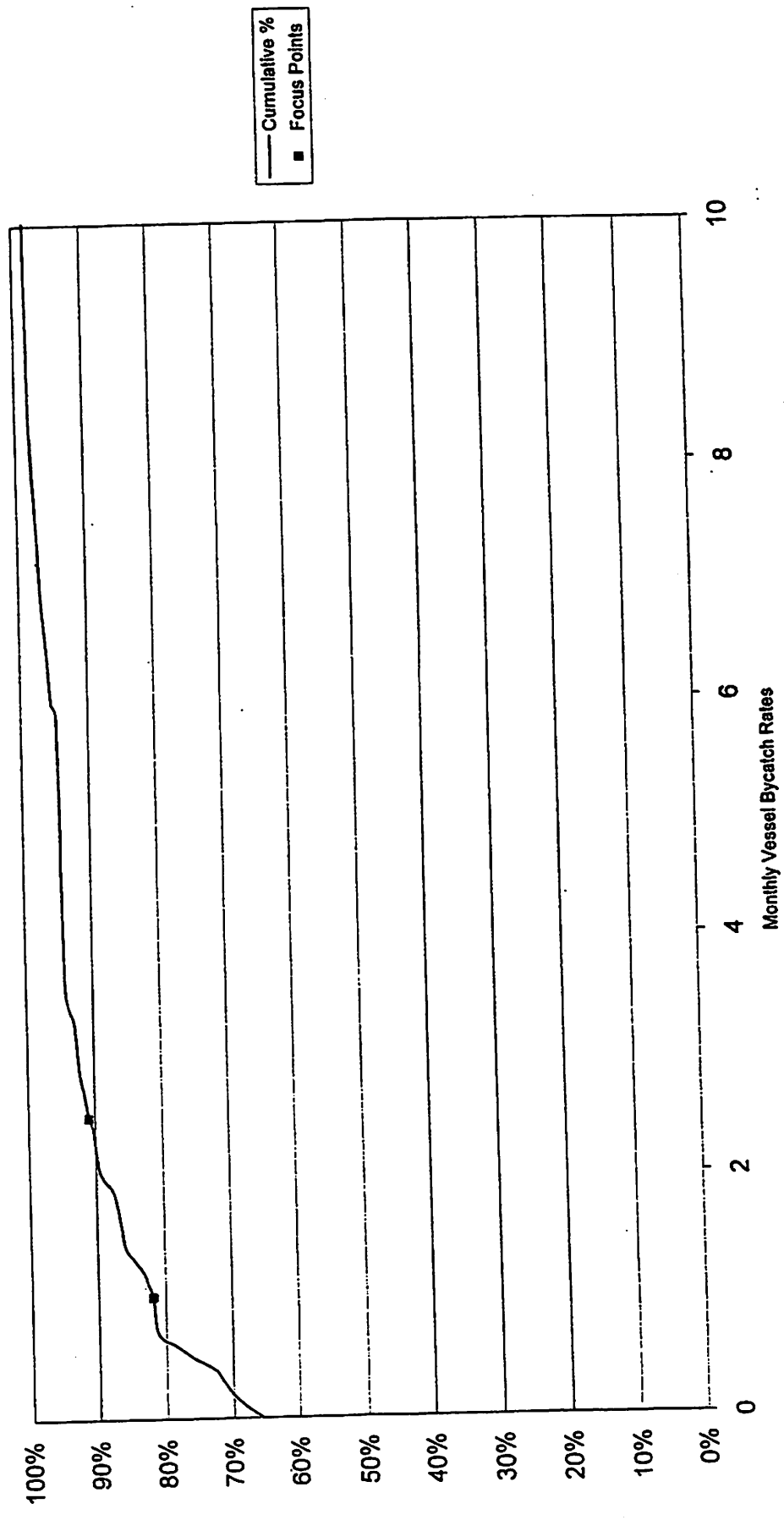
A-22

**BSA Zone 1 Yellowfin Sole Target
1999-2nd qtr 2001 Red King Crab Bycatch**

bycatch std = 2.5
total vessel months: 154
mean bycatch rate: 0.60



BSA Yellowfin Sole Zone 1 1999-2nd Qtr 2001
 Cumulative % of 'Vessel Month' Red King Crab Bycatch Rates
 82% of bycatch rates are at 1 #/mt or less
 91% are at 2.5 #/mt or less



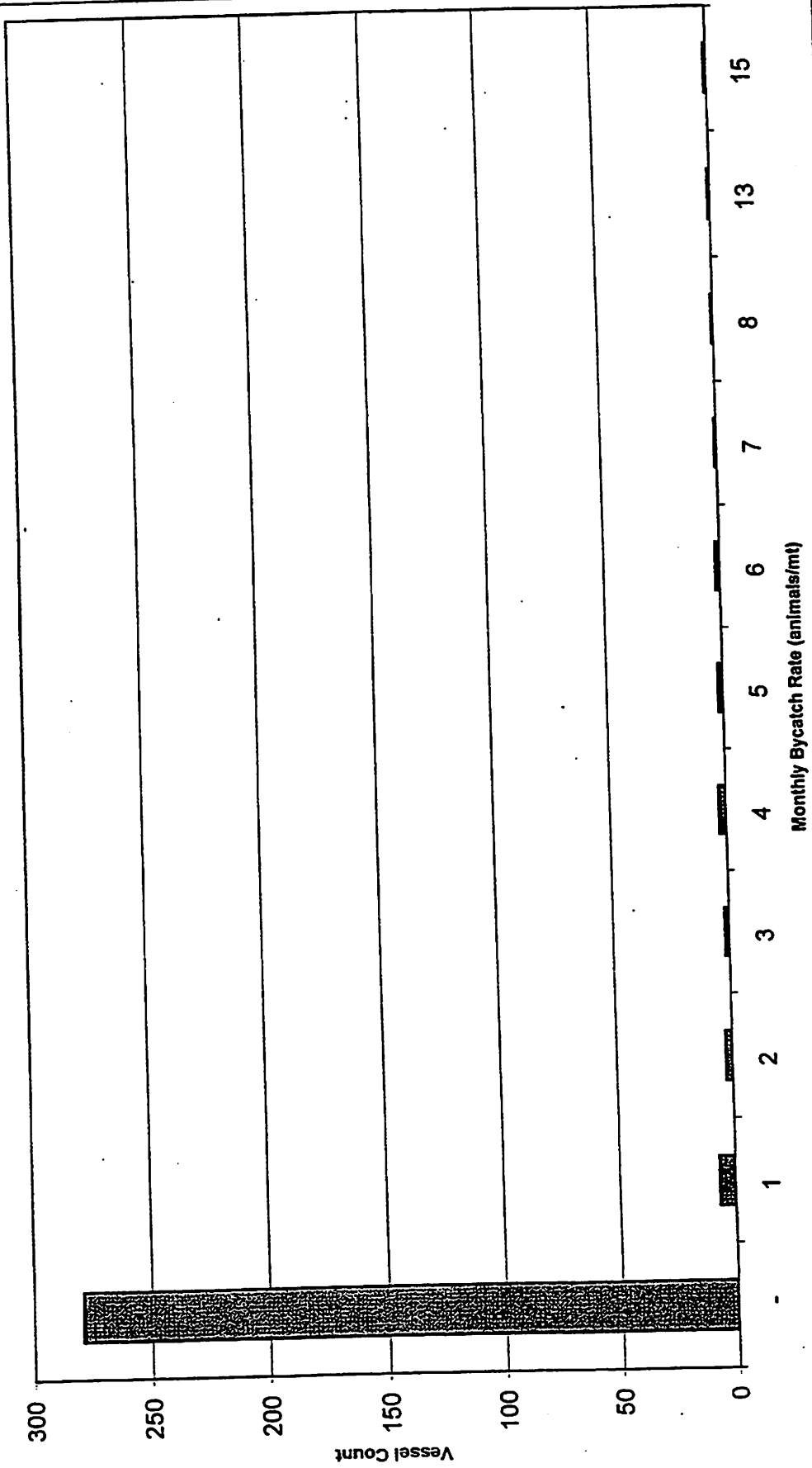
A-24

**BSA Zone 1 'Other' Target 2001
1st & 2nd Quarters Red King Crab Bycatch**

bycatch std = 2.5

mean 2001 bycatch rate: 0.09 1st qtr; 0.00 2nd qtr

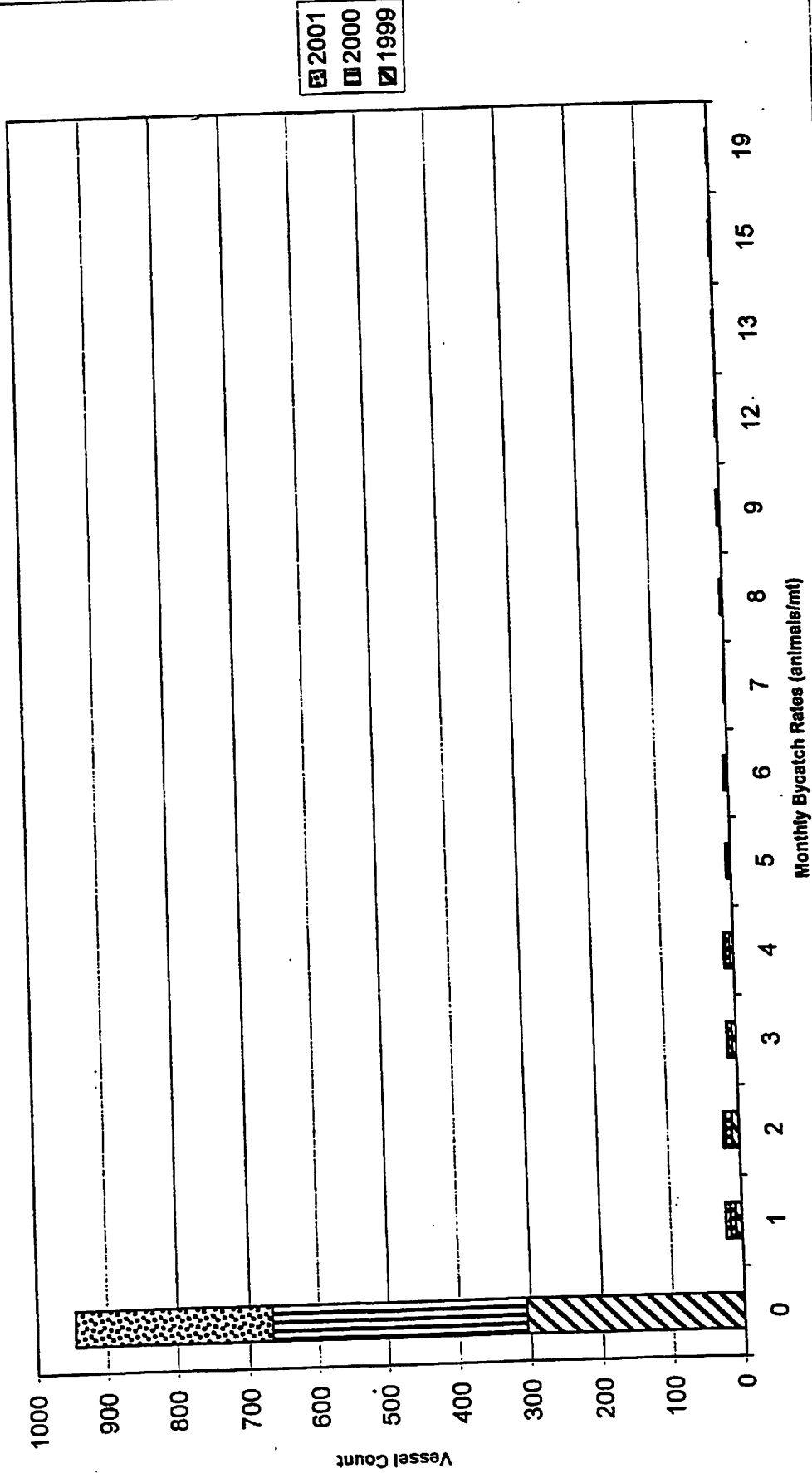
total vessel months: 302



A-25

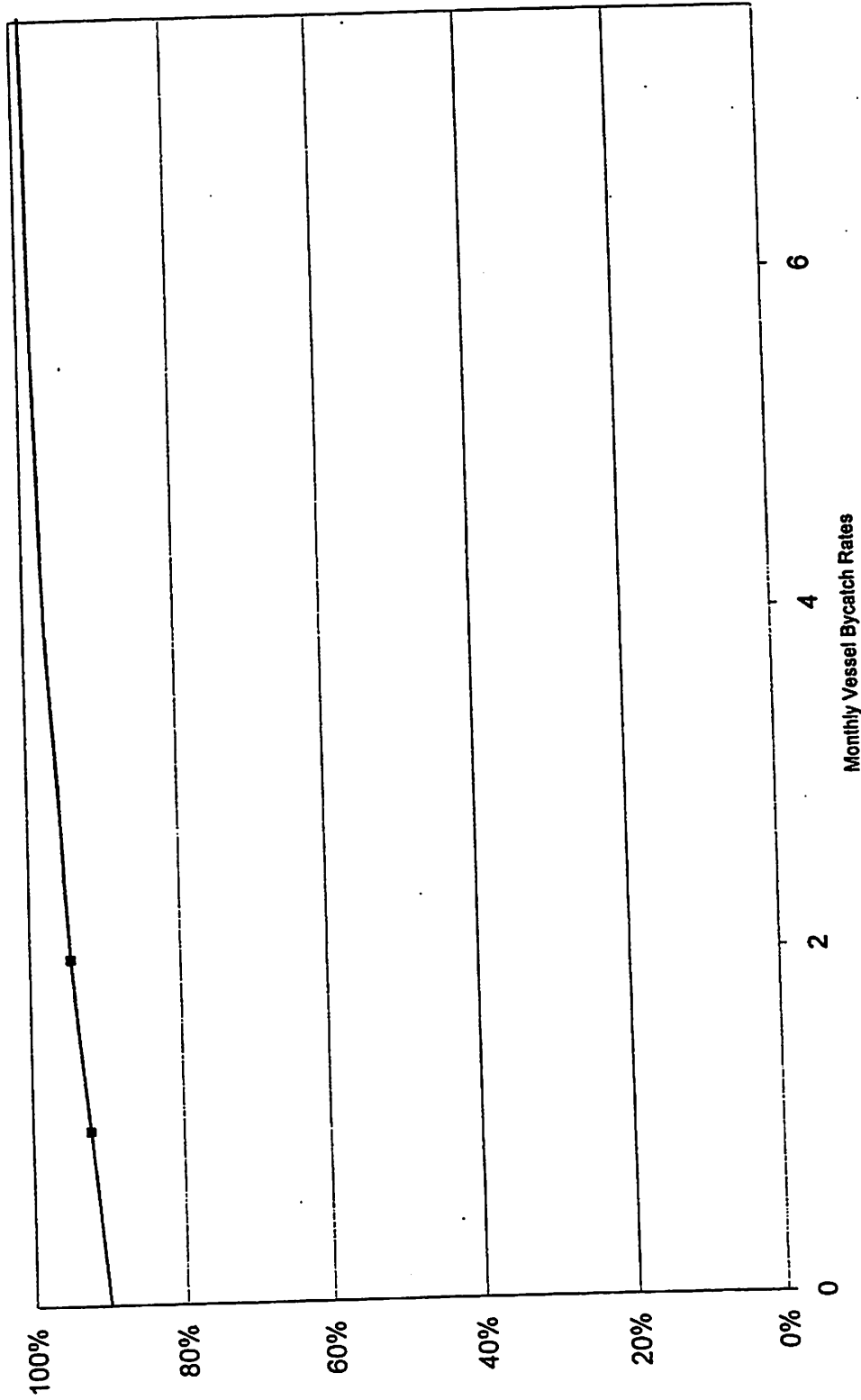
**BSA Zone 1 'Other' Target
1999-2nd qtr 2001 Red King Crab Bycatch**

bycatch std = 2.5
total vessel months: 1,049
mean bycatch rate: 0.40



A-26

BSA 'Other' Zone 1 1999-2nd Qtr 2001
Cumulative % of 'Vessel Month' Red King Crab Bycatch Rates
 92% of bycatch rates are at 1 #/mt or less
 95% are at 2.0 #/mt or less



— Cumulative %
 ■ Focus Points

A-27

September 2003 field work to develop a salmon excluder for the Bering Sea pollock fishery

The enclosed video shows the performance of an experimental bycatch reduction device designed to allow salmon to escape a pollock trawl. This research is being conducted under an exempted fishing permit (EFP) issued by the Alaska regional office of NMFS. The experimental work is being conducted on F/V Auriga. Investigators for this EFP are:

John Gauvin EFP Principal Investigator

John Gruver, United Catcher Boats Excluder Design

Technical assistance with EFP design, underwater video, and fishing gear was obtained from Dr. Craig Rose of the NMFS Alaska Fisheries Science Center in Seattle.

For more information, please contact United Catcher Boat Association (206) 282-2599 or John Gauvin at (206) 660-0359 ALL RIGHTS RESERVED

SCENE BY SCENE EXPLANATION OF VIDEO: This 30 minute video is designed to show the most commonly encountered response of salmon and pollock to the excluder under different fishing and hauling conditions. The first few minutes show pollock feeding into the intermediate and passing through the excluder tunnel. The view is from aft of the excluder "tunnel" facing forward. The escape portals and recapture device can be seen at the top of picture. Next, the video shows the net from the same camera angle at fishing depth with limited visibility (depths of 60-70 fathoms). Note that at 9/17 1:14pm a "feed cloud" makes observation of performance nearly impossible in this scene. The cameras for all this footage are very light-sensitive and are deployed with ambient light only. The visibility improves in the next scene (@1:19) as the net is brought up from fishing depth. This part shows how salmon react to the haulback of trawl. Note the side to side movement of the intermediate that occurs as the net is being hauled back.

The scene then changes (9/14 @11:12) to a view from above the excluder tunnel, adjacent to the escape portals. The camera is facing aft and despite the limited visibility, one can see pollock feeding into the tunnel and some salmon and pollock escapement as they swim up toward the camera placed near the V-shaped escapement portals. This is followed by the same "above the tunnel" camera angle, but this time during haulback. Numerous salmon escapes can be observed from this angle. Finally, note the re-entry of salmon from the recapture device (@12:08) to the trawl intermediate that occurs in the latter part of this scene during haulback. Modifications to the design of the recapture device are being made to address the problem.

The final scene (9/04 @ 2:20) is a different excluder device. This device is basically a large rectangular escape portal in the upper portion of the intermediate that is "protected" by a deflector panel placed ahead and covering the front portion of the escape portal. A horizontal separator panel was also used in the excluder. This early prototype device was tested in August 2003 on F/V Vesteraalen. The video shows a large number of herring escaping but the device produced little effect in terms of salmon escapement.